

Final

**PACIFIC GAS AND ELECTRIC COMPANY'S
APPLICATION TO CONSTRUCT
POTRERO TO HUNTERS POINT
115 kV CABLE PROJECT
CPUC A.03-12-039**

Mitigated Negative Declaration

November 19, 2004



Final

**PACIFIC GAS AND ELECTRIC COMPANY'S
APPLICATION TO CONSTRUCT
POTRERO TO HUNTERS POINT
115 kV CABLE PROJECT
CPUC A.03-12-039**

Mitigated Negative Declaration

November 19, 2004

*Prepared for
California Public
Utilities Commission*

225 Bush Street
Suite 1700
San Francisco, CA 94104
(415) 896-5900

436 14th Street
Suite 600
Oakland, CA 94612
(510) 839-5066

8950 Cal Center Drive
Building 3, Suite 300
Sacramento, CA 95826
(916) 564-4500

4221 Wilshire Boulevard
Suite 480
Los Angeles, CA 90010
(323) 933-6111

710 Second Avenue
Suite 730
Seattle, WA 98104
(206) 442-0900

4001 Office Court
Suite 607
Santa Fe, NM 87507
(505) 992-8860

2685 Ulmerton Road
Suite 102
Clearwater, FL 33762
(727) 572-5226

5850 T.G. Lee Boulevard
Suite 440
Orlando, FL 32822
(407) 851-1155

ESA | **Environmental
Science
Associates**

TABLE OF CONTENTS

MITIGATED NEGATIVE DECLARATION FOR PACIFIC GAS AND ELECTRIC COMPANY’S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT (A.03-12-039)

	<u>Page</u>
EXECUTIVE SUMMARY	ES-1
1. PROJECT DESCRIPTION	1-1
1.1 Introduction	1-1
1.2 Purpose and Need	1-1
1.3 Project Components	1-5
1.4 Existing System	1-7
1.5 Project Location	1-14
1.6 PG&E’s Proposed Cable Line	1-14
1.7 Right-of-Way Requirements	1-15
1.8 Construction	1-15
1.9 Operation and Maintenance	1-21
1.10 Required Approvals	1-22
1.11 Potential Impacts and Proposed Mitigation Measures	1-22
2. ENVIRONMENTAL CHECKLIST AND DISCUSSION	2-1
2.1 Aesthetics	2.1-1
2.2 Agricultural Resources	2.2-1
2.3 Air Quality	2.3-1
2.4 Biological Resources	2.4-1
2.5 Cultural Resources	2.5-1
2.6 Geology, Soils, and Seismicity	2.6-1
2.7 Hazards and Hazardous Materials	2.7-1
2.8 Hydrology and Water Quality	2.8-1
2.9 Land Use, Plans, and Policies	2.9-1
2.10 Mineral Resources	2.10-1
2.11 Noise	2.11-1
2.12 Population and Housing	2.12-1
2.13 Public Services	2.13-1
2.14 Recreation	2.14-1
2.15 Transportation / Traffic	2.15-1
2.16 Utilities and Services	2.16-1
2.17 Mandatory Findings of Significance	2.17-1

3. REPORT PREPARERS; PUBLIC AGENCY OUTREACH MEETINGS; AND ORGANIZATIONS AND PERSONS CONSULTED

3.1	Report Preparers.....	3-1
3.2	Public Agency Outreach Meetings.....	3-2
3.3	Organizations and Persons Consulted.....	3-2

LIST OF FIGURES

1-1	Project Overview Map.....	1-2
1-2	Typical Duct Bank Schematic.....	1-6
1-3	Typical Cable Termination Structure.....	1-8
1-4	Typical Transition Structure.....	1-9
1-5	Typical Breaker Structure – Plan and Elevation.....	1-10
1-6	Typical Coupling Capacitive Voltage Transformer (CCVT) Structure.....	1-11
1-7	Typical Breaker Connection Structure – Elevation.....	1-12
1-8	Representative Control Building Photographs.....	1-13
2.1-1	Photo Documentation of Project Area.....	2.1-3
2.1-2	Visual Simulation of Potrero Switchyard.....	2.1-12
2.7-1	Hazardous Material Sites.....	2.7-13
2.11-1	Effects of Noise on People.....	2.11-3

LIST OF TABLES

1-1	Equipment Typically Used During Construction.....	1-18
1-2	Summary of Impacts and Mitigation Measures for PG&E's Potrero to Hunters Point 115 kV Cable Project.....	1-23
2.3-1	Bay Area Air Quality Management District Attainment Status.....	2.3-3
2.3-2	Air Pollutant Summary for the Proposed Project Area, 1999–2003.....	2.3-4
2.3-3	Arkansas Street Station Toxic Air Pollutant Measurements.....	2.3-5
2.3-4	Construction Emissions Estimates for 115 kV Cable Line.....	2.3-10
2.3-5	Construction Emission Estimates for Switchyard Construction.....	2.3-11
2.3-6	Operations Emissions Estimates.....	2.3-13
2.4-1	Sensitive Wildlife Species with Potential to Occur in the Project Area.....	2.4-3
2.4-2	Sensitive Plant Species with Potential to Occur in the Project Area.....	2.4-4
2.5-1	Relevant Recorded Cultural Resources in Project Area.....	2.5-5
2.6-1	Faults in the Project Vicinity.....	2.6-4
2.7-1	Regulatory Agency Databases Accessed for EDR Database Review.....	2.7-6
2.7-2	Hazardous Materials Release Sites Identified along the Project Route.....	2.7-7
2.11-1	Noise Measurements along Proposed Project Route.....	2.11-5
2.11-2	Construction Equipment Noise Levels and Abatement Potential.....	2.11-8
2.12-1	San Francisco Population and Households, 2000–2030.....	2.12-1
2.16-1	Local Utility and Service Providers.....	2.16-2
2.17-1	Planned and Proposed Projects Local Construction Projects within 1/2 Mile of the Project Area.....	2.17-7
2.17-2	Planned and Proposed Generation and Transmission Projects in the San Francisco Area.....	2.17-10
3-1	Organizations or Persons Consulted.....	3-2

TABLE OF CONTENTS

MITIGATED NEGATIVE DECLARATION FOR PACIFIC GAS AND ELECTRIC COMPANY’S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT (A.03-12-039)

	<u>Page</u>
EXECUTIVE SUMMARY	ES-1
1. PROJECT DESCRIPTION	1-1
1.1 Introduction	1-1
1.2 Purpose and Need	1-1
1.3 Project Components	1-5
1.4 Existing System	1-7
1.5 Project Location	1-14
1.6 PG&E’s Proposed Cable Line	1-14
1.7 Right-of-Way Requirements	1-15
1.8 Construction	1-15
1.9 Operation and Maintenance	1-21
1.10 Required Approvals	1-22
1.11 Potential Impacts and Proposed Mitigation Measures	1-22
2. ENVIRONMENTAL CHECKLIST AND DISCUSSION	2-1
2.1 Aesthetics	2.1-1
2.2 Agricultural Resources	2.2-1
2.3 Air Quality	2.3-1
2.4 Biological Resources	2.4-1
2.5 Cultural Resources	2.5-1
2.6 Geology, Soils, and Seismicity	2.6-1
2.7 Hazards and Hazardous Materials	2.7-1
2.8 Hydrology and Water Quality	2.8-1
2.9 Land Use, Plans, and Policies	2.9-1
2.10 Mineral Resources	2.10-1
2.11 Noise	2.11-1
2.12 Population and Housing	2.12-1
2.13 Public Services	2.13-1
2.14 Recreation	2.14-1
2.15 Transportation / Traffic	2.15-1
2.16 Utilities and Services	2.16-1
2.17 Mandatory Findings of Significance	2.17-1

3. REPORT PREPARERS; PUBLIC AGENCY OUTREACH MEETINGS; AND ORGANIZATIONS AND PERSONS CONSULTED

3.1	Report Preparers.....	3-1
3.2	Public Agency Outreach Meetings.....	3-2
3.3	Organizations and Persons Consulted.....	3-2

LIST OF FIGURES

1-1	Project Overview Map.....	1-2
1-2	Typical Duct Bank Schematic.....	1-6
1-3	Typical Cable Termination Structure.....	1-8
1-4	Typical Transition Structure.....	1-9
1-5	Typical Breaker Structure – Plan and Elevation.....	1-10
1-6	Typical Coupling Capacitive Voltage Transformer (CCVT) Structure.....	1-11
1-7	Typical Breaker Connection Structure – Elevation.....	1-12
1-8	Representative Control Building Photographs.....	1-13
2.1-1	Photo Documentation of Project Area.....	2.1-3
2.1-2	Visual Simulation of Potrero Switchyard.....	2.1-12
2.7-1	Hazardous Material Sites.....	2.7-13
2.11-1	Effects of Noise on People.....	2.11-3

LIST OF TABLES

1-1	Equipment Typically Used During Construction.....	1-18
1-2	Summary of Impacts and Mitigation Measures for PG&E's Potrero to Hunters Point 115 kV Cable Project.....	1-23
2.3-1	Bay Area Air Quality Management District Attainment Status.....	2.3-3
2.3-2	Air Pollutant Summary for the Proposed Project Area, 1999–2003.....	2.3-4
2.3-3	Arkansas Street Station Toxic Air Pollutant Measurements.....	2.3-5
2.3-4	Construction Emissions Estimates for 115 kV Cable Line.....	2.3-10
2.3-5	Construction Emission Estimates for Switchyard Construction.....	2.3-11
2.3-6	Operations Emissions Estimates.....	2.3-13
2.4-1	Sensitive Wildlife Species with Potential to Occur in the Project Area.....	2.4-3
2.4-2	Sensitive Plant Species with Potential to Occur in the Project Area.....	2.4-4
2.5-1	Relevant Recorded Cultural Resources in Project Area.....	2.5-5
2.6-1	Faults in the Project Vicinity.....	2.6-4
2.7-1	Regulatory Agency Databases Accessed for EDR Database Review.....	2.7-6
2.7-2	Hazardous Materials Release Sites Identified along the Project Route.....	2.7-7
2.11-1	Noise Measurements along Proposed Project Route.....	2.11-5
2.11-2	Construction Equipment Noise Levels and Abatement Potential.....	2.11-8
2.12-1	San Francisco Population and Households, 2000–2030.....	2.12-1
2.16-1	Local Utility and Service Providers.....	2.16-2
2.17-1	Planned and Proposed Projects Local Construction Projects within 1/2 Mile of the Project Area.....	2.17-7
2.17-2	Planned and Proposed Generation and Transmission Projects in the San Francisco Area.....	2.17-10
3-1	Organizations or Persons Consulted.....	3-2

EXECUTIVE SUMMARY

INTRODUCTION

The California Public Utilities Commission (CPUC) has prepared this Final Mitigated Negative Declaration (MND) to address the application from Pacific Gas and Electric Company (PG&E), (A.03-12-039) for a Permit to Construct (PTC) approximately 2.5 miles of underground 115 kilo-volt (kV) single circuit cable between the Potrero and Hunters Point Switchyards. The intent of the proposed project, which PG&E proposed to begin construction activities on in 2005, is to increase the reliability of the electric transmission system service throughout the San Francisco Bay Area. This Final MND considered environmental impacts that would occur from the potential development and operation of the cable line and associated project components as proposed by PG&E. The analysis of this Final MND concluded that any environmental impacts associated with PG&E's proposed project can be mitigated to a less than significant level with implementation of mitigation measures identified in this document.

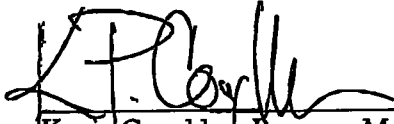
The CPUC completed a Draft MND for the PG&E Hunters to Potrero Cable Project (proposed project). The CPUC filed a Notice of Completion (NOC) with the Governor's Office of Planning and Research, State Clearing House, published a Notice of Availability (NOA) and released the Draft MND for a 30-day public review period on October 15, 2004. The Draft MND was distributed to a group of agency representatives and individuals as outlined in Table 3-1. Additionally, a Public Notice was published in the three general circulation newspapers announcing the availability of the document for public review in compliance with CEQA. The public review period and comment period on the Draft MND ended on November 15, 2004. Copies of all written comments received on the Draft MND are contained in this report.

As the lead CEQA agency, the CPUC prepared a response to all written comments received during the public review period for the Draft MND. The response to comments and text changes, together with the Draft MND, constitutes the Final MND upon certification by the CPUC as complete and adequate pursuant to CEQA.

Findings

Therefore, based on the analysis conducted in the Final MND, the CPUC has found, on the basis of the whole record before it (including the initial study and public comments received), that there is no substantial evidence that the proposed project will have any significant unmitigable environmental impacts related to either construction activities or operations of the proposed project. The majority of the proposed project impacts result from construction activities. These impacts are temporary and can be mitigated to a less-than-significant level with mitigation

measures identified in this Final MND. An operational impact was also identified as a potential impact to public safety and operations of the proposed project. This operational impact was also determined mitigable; no significant unavoidable operational or temporary impacts would result. Accordingly, mitigation proposed as part of the proposed project, as well as measures identified in the Final MND, would avoid or reduce all of the impacts to a less-than-significant level.


Kevin Coughlan, Program Manager
Energy Division
California Public Utilities Commission


Date

CHAPTER 1

PROJECT DESCRIPTION

1.1 INTRODUCTION

In its California Public Utilities Commission (CPUC) application (A.03-12-039) for a permit to construct the Potrero to Hunters Point 115 kilo-volt (kV) Cable Project pursuant to General Order (GO) 131-D, Pacific Gas and Electric Company (PG&E) is proposing a project that includes the installation of approximately 2.5 miles of underground 115 kV single-circuit cable, with a power rating of 200 megavolt amperes (MVA), to serve as a transmission line between PG&E's Potrero and Hunters Point switchyards ("Potrero to Hunters Point 115 kV Cable Project" or "proposed project") (see **Figure 1-1**). The proposed project would also include certain modifications to each of the switchyards. Additionally, construction staging areas would be needed to store equipment and excavated materials. The proposed project is intended to provide necessary internal transmission network reinforcements to the electrical transmission system serving the City and County of San Francisco (City) to improve system reliability. This Mitigated Negative Declaration (MND) considers the potential environmental impacts from PG&E's proposed project.

1.2 PURPOSE AND NEED

PG&E's most recent electric demand forecast for San Francisco, which was used to develop the base case loads for PG&E's *2003 Electric Transmission Grid Expansion Plan*, anticipates a growth rate of about 15 megawatts (MW) per year. According to PG&E, the Potrero to Hunters Point 115 kV Cable Project would provide necessary internal transmission network reinforcements to the electrical transmission system serving the City in order to improve reliability, better serve load, and provide a component needed to meet the goal of closing PG&E's Hunters Point Power Plant.¹

The California Independent System Operator (CAISO) California Grid Planning Criteria, which include the Planning Standards and Guidelines of the North American Electric Reliability Council (NERC) that focus on system reliability, are as follows:

¹ In 1998, the City and County of San Francisco and PG&E entered into an agreement to "permanently shut down the Hunters Point Power Plant as soon as the facility is no longer need to sustain electric reliability in San Francisco and the surrounding area and the Federal Energy Regulatory Commission (FERC) has authorized PG&E to terminate PG&E's Reliability Must Run Contract for the facility." Decision (D.).04-08-046. The CPUC approved that settlement in (D.) 98-10-029.



SOURCE: Environmental Science Associates (2004) PG&E's Potrero to Hunters Point 115 kV Cable Project (A.03-12-039) / 204039 ■

Figure 1-1
Project Overview Map

- Category A. Normal ratings of equipment will not be exceeded with all generators, lines, and transformers in service. The voltage must be maintained within normal limits under these conditions.² No loss of load is allowed.
- Category B. Emergency ratings of equipment will not be exceeded with the loss of a single circuit, generator, or transformer, or of a single circuit and a single generator. The voltage must be maintained within emergency limits under these conditions. No loss of load, except as noted in the footnote below, is allowed.³
- Category C. Emergency ratings of equipment will not be exceeded with the loss of a single circuit, generator, or transformer, or of a single circuit and a single generator; followed by manual system adjustments, and then followed by loss of another single circuit, generator, or transformer. The voltage must be maintained within emergency limits under these conditions. Loss of load, except as noted in the footnote below, is not allowed.⁴

Using the CAISO California Grid Planning Criteria, PG&E transmission planners evaluated various transmission alternatives and concluded that constructing a new 115 kV underground cable from Potrero to Hunters Point is the most feasible and cost-effective means of adding reliability to PG&E's internal transmission network in the city. For example, construction of a new 115 kV underground cable from Potrero to Hunters Point would allow PG&E to transmit power generated at Potrero to Hunters Point for further distribution if the generation capabilities at the Hunters Point Power Plant failed, or would allow the load on the internal transmission network to be distributed to the Potrero to Hunters Point line if another line needed to be taken out of service for repairs without overloading the current internal system.

Additionally, the San Francisco Stakeholders Study Group, a broad-based, multidisciplinary study group led by the CAISO,⁵ studied the issue of reliability in the *San Francisco Peninsula Long-Term Electric Transmission Planning Technical Study: 2004-2009*. The study indicated that substantial additions to PG&E's electric transmission systems would be required in order to meet growth demand and to maintain the reliability of the transmission system while complying with the transmission planning options for the San Francisco Bay Area as identified by the

² Normal voltage and emergency limits are based on average customer equipment voltage requirements and California Public Utilities Commission Electric Rule 2.

³ "Planned or controlled interruption of generators or electric supply to radial customers or some local network customers, connected to or supplied by the faulted component or by the affected area, may occur in certain areas without impacting the overall security of the interconnected transmission systems. To prepare for the next contingency, system adjustments are permitted, including curtailments of contracted firm (non-recallable reserved) electric power transfers." (NERC Planning Standards, Table 1, footnote b)

⁴ "Depending on system design and expected system impacts, the controlled interruption of electric supply to customers (load shedding), the planned removal from service of certain generators, or the curtailment of contracted firm (non-recallable reserved) electric power transfers may be necessary to maintain the overall security of the interconnected transmission systems" (NERC Planning Standards, Table 1, footnote d). CAISO Planning Standards specify that: "Involuntary load interruptions are an acceptable consequence in planning for CAISO Planning Standard Category C and D disturbances (multiple contingencies with the exception of the combined outage of a single generator and a single transmission line), unless the CAISO Board decides that the capital project is clearly cost effective (after considering all the costs and benefits)." In cases where this application would result in the elimination of a project or relaxation of standards that would have been built under past planning practices, these cases will be presented to the CAISO Board for a determination on whether the projects should be constructed. (CAISO Planning Standards; February 7, 2002, page 3)

⁵ Members include: CAISO, the City and County of San Francisco, PG&E, and other interested stakeholders such as the CPUC Office of Ratepayers Advocate, City of Palo Alto, and Southeast Alliance for Environmental Justice.

CAISO.⁶ Without new transmission or generation facilities, the current system would be subjected to thermal overloads under various single and multiple facility outages. The study also noted that an overlapping outage of a single transmission cable and one generating unit might result in system voltage collapse⁷, a level of risk that is inconsistent with planning criteria.

The San Francisco Stakeholders Group evaluated a variety of potential solutions to address these deficiencies. Their evaluation focused primarily on generation and transmission, dismissing load reduction as an effective long-term solution due to the magnitude of load reduction that would be required to address the deficiencies in the system. Although the San Francisco Stakeholders Group did not evaluate specific generation projects, they did note the need for an additional 400 MW or more of new generation to meet projected power needs for 2009. The preferred transmission project was determined to be the Jefferson-Martin 230 kV line, which would bring power to the city, in combination with the internal transmission network reinforcement including construction of a 115 kV underground cable between Potrero and Hunters Point to provide reliability within the city. In December 2000, CAISO formally approved the PG&E's Potrero to Hunters Point 115 kV Cable Project.⁸

Focusing on these generation needs, the San Francisco Public Utilities Commission, included additions to PG&E's system as a long-term initiative to meet growing power needs and to increase reliability (SFPUC, 2002) which include the City and County of San Francisco's plans to install three 48 MW LM6000 combustion turbines at the Potrero Power Plant and one at the San Francisco International Airport.

According to PG&E, the Potrero to Hunters Point 115 kV Cable Project would provide one of the components needed to facilitate the goal of closing PG&E's Hunters Point Power Plant. In accordance with PG&E's 1998 settlement agreement with the City and County of San Francisco, PG&E will "permanently shut down the Hunters Point Power Plant as soon as the facility is no longer needed to sustain electric reliability in San Francisco and the surrounding area and the Federal Energy Regulatory Commission (FERC) has authorized PG&E to terminate PG&E's Reliability Must Run (RMR)⁹ Contract for the facility."¹⁰

⁶ Included as part of the CAISO California Grid Planning Criteria are the Planning Standards and Guidelines of the North American Electric Reliability Council (NERC). As a part of the CAISO long-term plan (five to ten years) PG&E has agreed on transmission planning options for the San Francisco Bay area. This final stakeholder report is posted on the California ISO website at (<http://temp.sfgov.org/sfenvironment/aboutus/energy/transmission.pdf>).

⁷ System voltage collapse occurs when demands on the electric system exceed the ability of the operator to maintain the voltage level needed for service, such as during the east coast blackout in August 2003.

⁸ The CAISO reiterated its belief that the proposed project was necessary in its April 18, 2003 letter from Terry Winters to Kevin Dasso of PG&E and San Francisco City Attorney Therese Mueller, and its July 4, 2004 letter from Jim Delmers to San Francisco Mayor Gavin Newsom, et. al.

⁹ A RMR Contract is a rate schedule on file at FERC and in effect, *or* a contract between the Independent Service Operator (ISO) and a Generator, giving the ISO the right to call on the Generator to generate Energy or provide Ancillary Services from the Generating Unit as and when required to ensure the reliability of the ISO Controlled Grid, in return for certain payments (Wollack and Bushnell, 1999)

¹⁰ D. 04-08-046, p.26.

In 2003, CAISO considered the potential retirement of power generation at the Hunters Point Power Plant within a study to determine the load serving capabilities for the San Francisco Peninsula under a variety of transmission and generation scenarios (*San Francisco Peninsula Load Serving Capability Study*) (CAISO, 2004a). In September 2004, CAISO created an action plan that meets reliability standards and allows for the release of the Hunters Point Power Plant from its RMR agreements. In order to release Hunters Point existing generation Units #1 and #4 from their RMR Agreements, seven projects are required, including: San Mateo-Martin # 4 Line 60-115 kV Voltage Conversion; Ravenswood #2 230/115 kV transformer project; San Francisco Internal Cable Higher Emergency Ratings; Tesla-Newark #2 230 kV Line Reconductoring; Ravenswood-Ames #1 and #2 115 kV Lines Reinforcement; San Mateo 230 kV Bus Insulator Replacement; *Potrero to Hunters Point 115 kV Cable*; Potrero #3 retrofit with emission control technology; and the Jefferson-Martin 230 kV Line. To release Hunters Point Units #2 and #3, which operate as synchronous condensers to produce voltage support and are not in electric energy production mode, from the RMR Agreements, a Static Var Compensator (SVC) located at Potrero Substation would be required to both replace these synchronous condensers as well as support reactive capacity lost when Hunters Point Unit #4 is eventually retired.¹¹

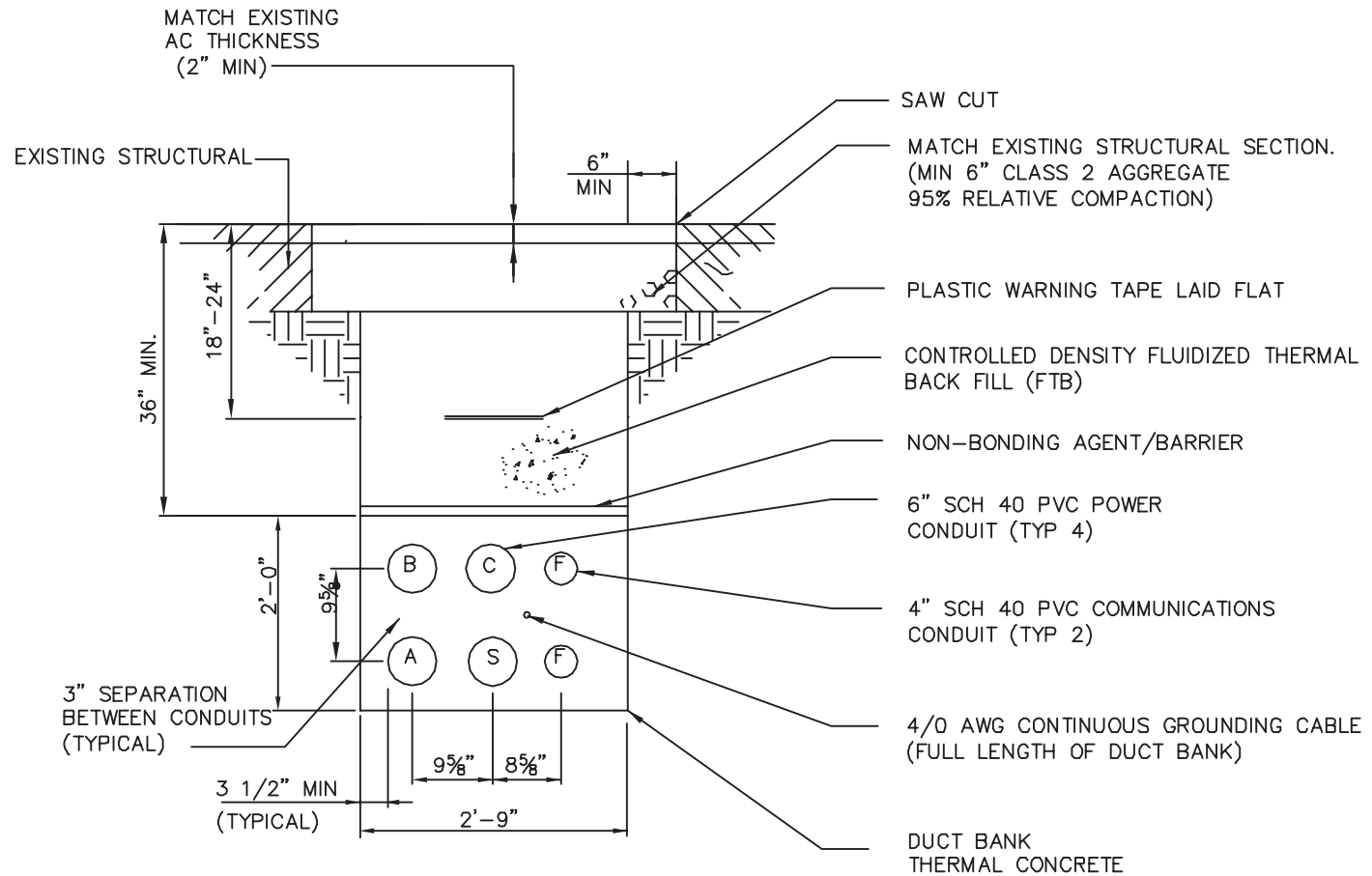
According to both PG&E and the San Francisco Stakeholders Group, the proposed project would support the necessary internal transmission network reinforcements needed for increased reliability in the City; and, in conjunction with the other projects outlined in the CAISO action plan, would provide a component necessary to meet the goal of permanently shutting down the Hunters Point Power Plant.

1.3 PROJECT COMPONENTS

The components of the proposed project are as follows:

- Underground Power Line.** The proposed project would have an underground power line (115 kV dielectric cable) within duct banks (approximately 2 feet wide and 6 feet deep) containing four 6-inch-diameter conduits. The duct bank would also carry two 4-inch-diameter communication conduits for fiber optic cables. PG&E asserts that these communication cables would be used for substation communications. **Figure 1-2** depicts a typical schematic of a duct bank. For the proposed project route, approximately eight underground concrete power and eight concrete communication vaults would be installed in line with the duct bank. Each power vault, which would have two manhole covers, would measure approximately 20 feet long, 10 feet wide, and 8 feet high. While each communication vault, which would have one manhole cover, would measure approximately 6 feet long, 4 feet wide, and 6.5 feet deep. The communication vaults would be located

¹¹ To account for the projected retirement of Hunters Point Units 2 & 3 and eventually Units 1 & 4, PG&E commissioned a comprehensive voltage analysis for the Greater San Francisco Bay Area. This study included the analysis of steady-state pre and post-contingency, post-transient, transient stability, and mid-term voltage stability analysis that was conducted to fully understand any dynamic voltage concerns not seen through normal analytical methods. As a result of this analysis, it was determined that a SVC at Potrero Substation in combination with new shunt capacitors at Ravenswood Substation would compensate for the retirement of the various units at Hunters Point as well as accommodate projected load growth within the Greater Bay Area for many years to come. In April 2003, CAISO approved the Potrero SVC project, which is scheduled for operation by early December 2004.



TYPICAL DUCT BANK
SECTION 1
BACKFILL TYPE A

near every other power vault which would be spaced at approximately 1,600 to 2,000 feet apart.

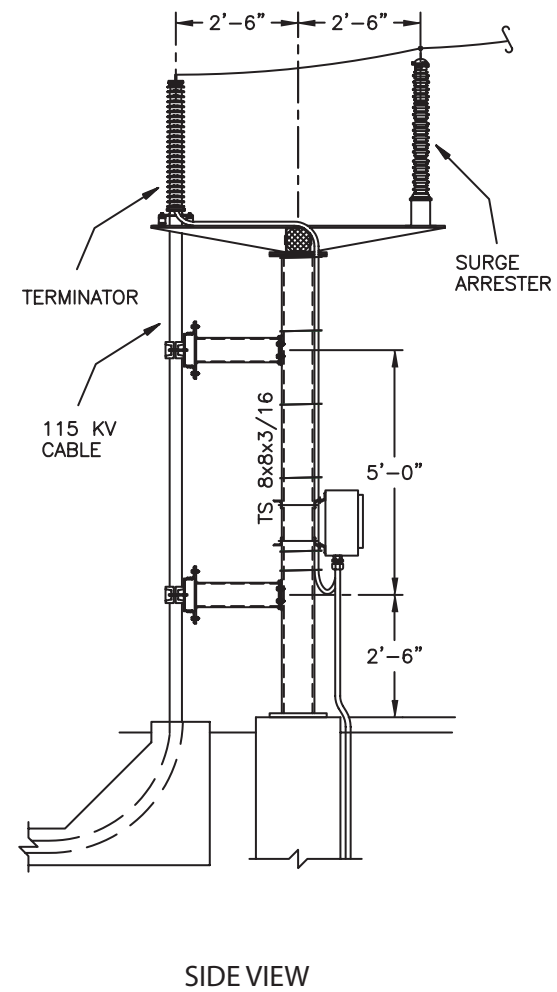
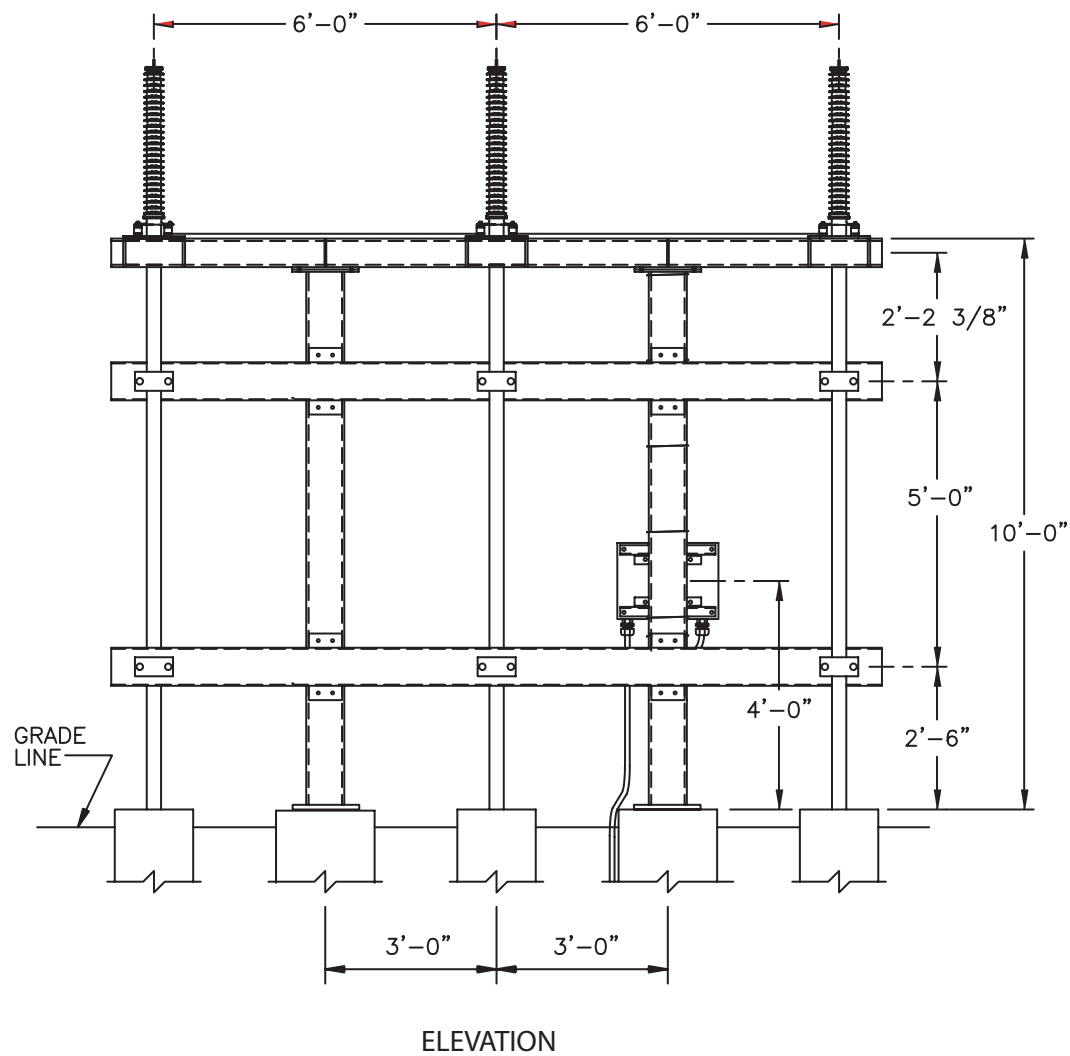
Switchyards. New equipment would be required within the Potrero and Hunters Point Switchyards. Specifically, the proposed project would require constructing termination structures, transition structures, breakers, coupling capacitive voltage transformer structures, and bus connections at both the Potrero and Hunters Point Switchyards. Lighting would be installed on the breaker and bus structures at each substation and on the control building at the Hunters Point Switchyard. **Figures 1-3** through **1-7** depict the types of structures to be installed at the switchyards. In addition, a prefabricated metal control building measuring 16 feet wide by 48 feet long would be installed at the Hunters Point Switchyard. Photographs of a representative control building are shown in **Figure 1-8**. Neither switchyard would be expanded beyond the existing fence line for these modifications.

- **Excavated Materials Storage and Staging Areas.** Across the street from the Potrero Switchyard on the northeast corner of Illinois Street and 22nd Street, PG&E's general construction yard provides storage for vehicles and other types of equipment. This yard would be used as a staging area and storage site for materials removed, as well as those used (i.e. concrete, plastic conduit, and asphalt) during the construction phase. This yard is primarily cleared and graded with gravel. If an alternative storage and/or staging area is chosen for use during construction, the site would be surveyed by a biologist prior to construction to verify that no sensitive resources are present.

PG&E has another general construction yard located near the Hunters Point Switchyard, at the intersection of Cargo Way and Jennings Street, which may be used during project construction. This existing construction yard is completely cleared and paved. As an alternative location to this general construction yard, PG&E is discussing with the Port of San Francisco the possibility of using land on Port property located northeast of Cargo Way, between Jennings and Third Street. Materials excavated from the trench and other work areas may be used as backfill, if suitable, with any excess materials being tested and disposed of in accordance with applicable requirements. Additionally, a project construction office trailer would be located at one of these sites.

1.4 EXISTING SYSTEM

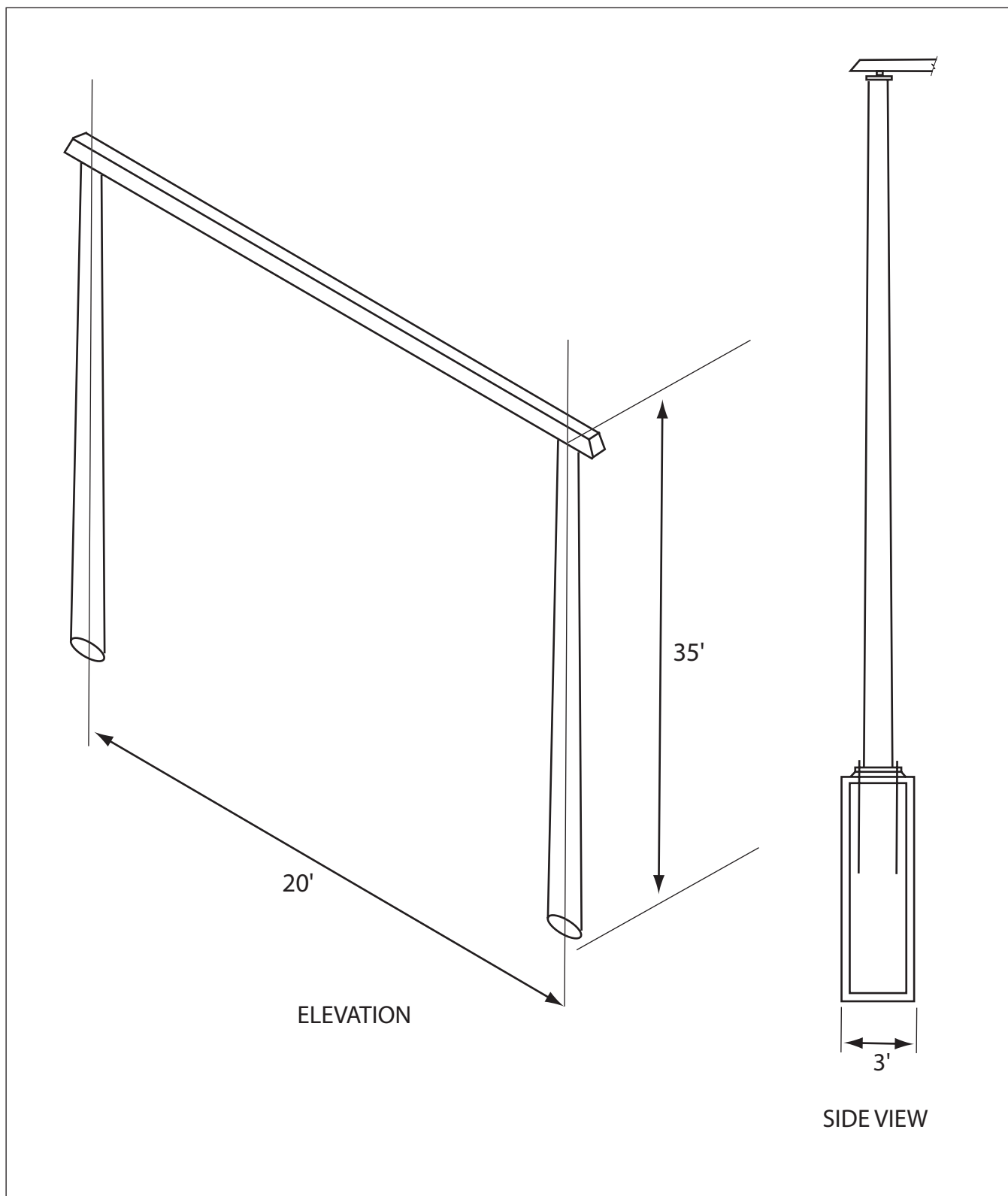
The Potrero and Hunters Point Power Plants provide a combined generation capacity of 570 MW (213 MW and 357 MW, respectively) to support the load serving needs of the San Francisco–Peninsula Area. The balance of the load serving needs is delivered through PG&E's transmission system from generation resources outside the San Francisco–Peninsula Area. Each power plant includes a fossil-fueled (natural gas) steam generator, Hunters Point Unit #4 and Potrero Unit #3, which are approaching or beyond their designed service life. The remainder of these plants consists of four diesel fired Combustion Turbines (CTs): Potrero Units #4, #5, #6 and Hunters Point Unit #1. Hunters Point Units #2 and #3 operate as synchronous condensers to produce voltage support and are not in electric energy production mode. Currently, a Static Volt-Ampere-Reactive (VAR) Compensator is being constructed, with operation scheduled for December 2004, at the Potrero Substation to replace the Hunters Point Unit #2 and #3 synchronous condensers. The Static VAR Compensator will allow continuous control of power swings under various

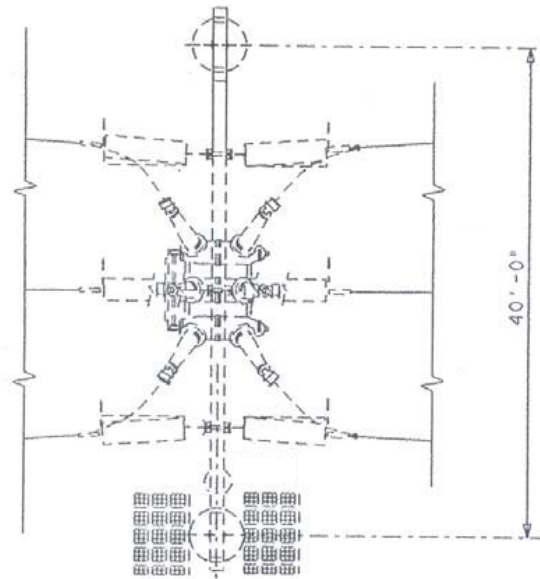


SOURCE: PG&E Department of Engineering (2003);
Environmental Science Associates (2004)

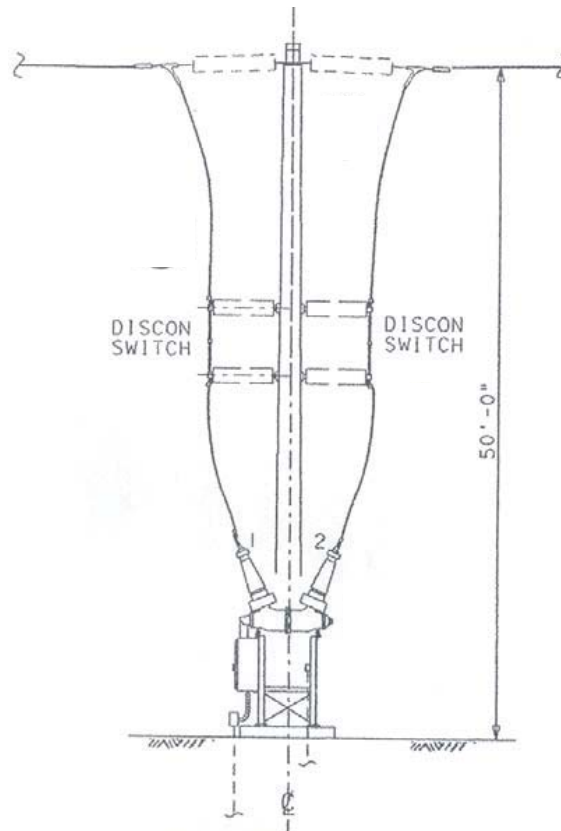
PG&E's Potrero to Hunters Point 115 kV Cable Project (A.03-12-039) / 204039 ■

Figure 1-3
Typical Cable Termination Structure





PLAN VIEW



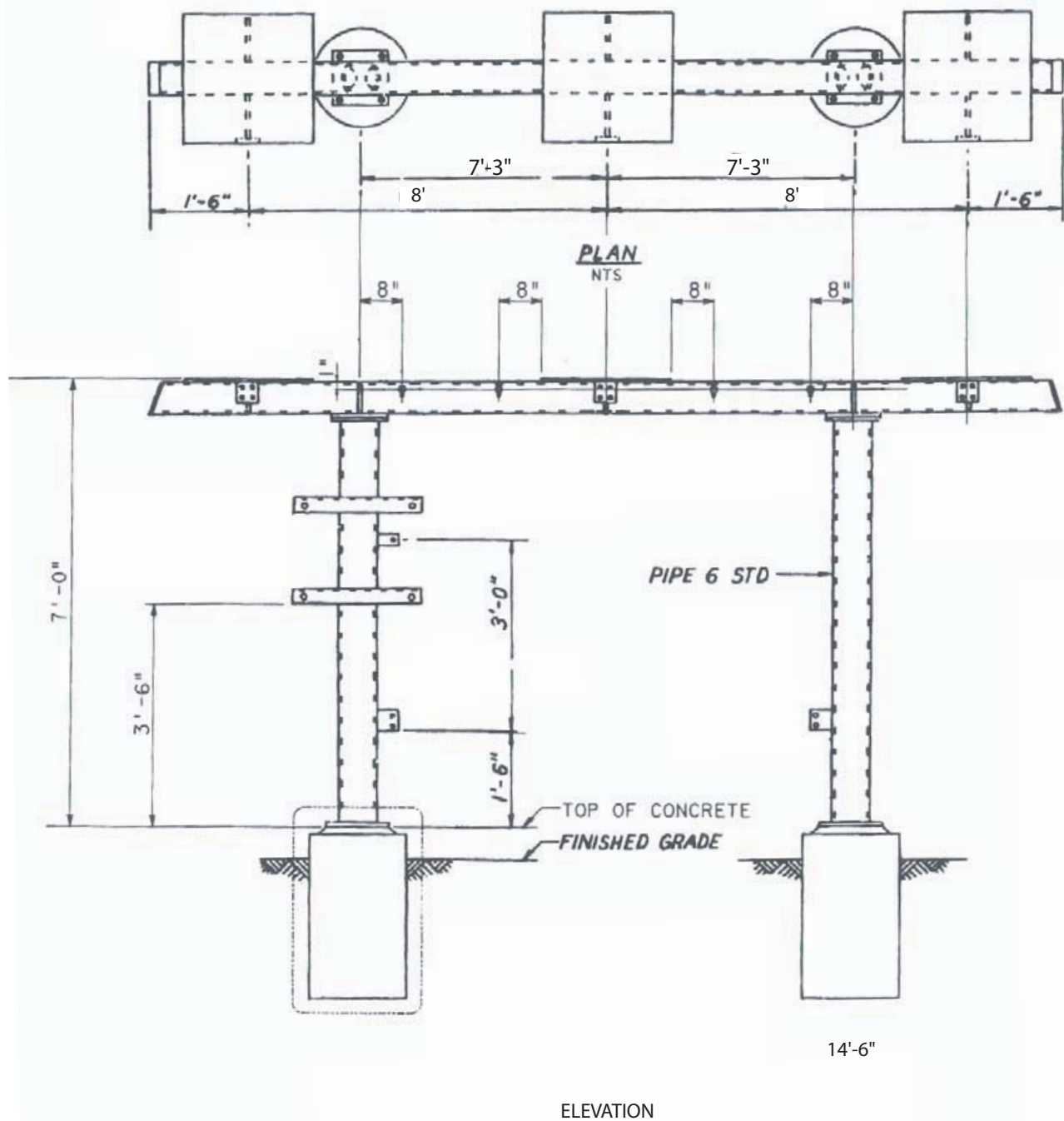
ELEVATION

SOURCE: PG&E Department of Engineering (2003);
Environmental Science Associates (2004)

PG&E's Potrero to Hunters Point 115 kV Cable Project (A.03-12-039) / 204039 ■

Figure 1-5

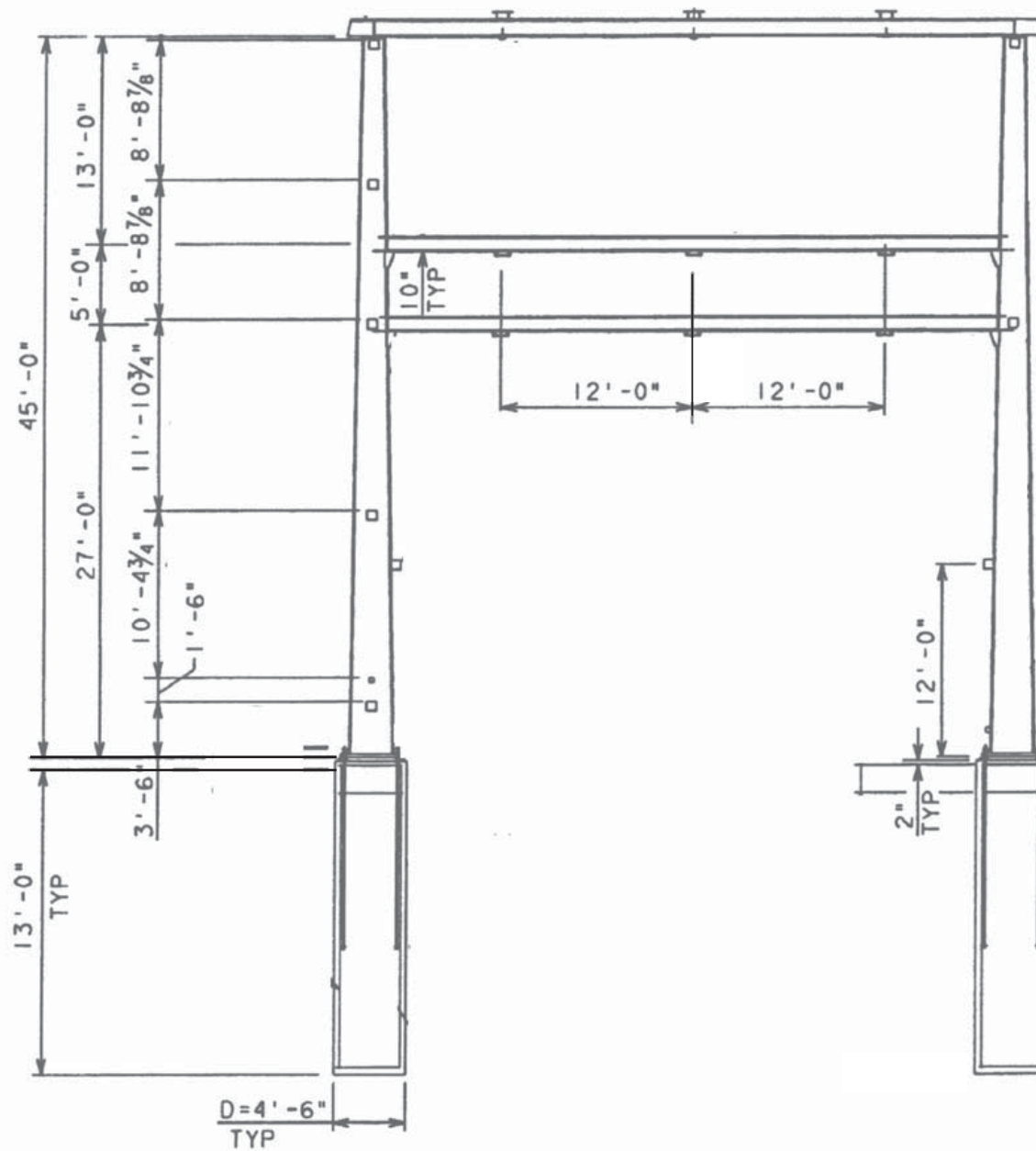
Typical Breaker Structure –
Plan and Elevation



SOURCE: PG&E Department of Engineering (2003);
Environmental Science Associates (2004)

PG&E's Potrero to Hunters Point 115 kV Cable Project (A.03-12-039) / 204039 ■

Figure 1-6
Typical Coupling Capacitive
Voltage Transformer (CCVT) Structure



ELEVATION

Figure 1-7
Typical Breaker Connection Structure – Elevation



SOURCE: PG&E Department of Engineering (2003);
Environmental Science Associates (2004)

PG&E's Potrero to Hunters Point 115 kV Cable Project (A.03-12-039) / 204039 ■

Figure 1-8
Representative Control Building Photographs

system conditions, since the transmitted load varies considerably from one hour to another. Due to their long years of service, these plants have recently begun to exhibit an increased trend of unreliability, with more forced outages, longer duration outages, and maintenance needs increasing in cost and scope. These power plants are also facing additional limitations and/or maintenance costs due to increasingly restrictive air quality regulations.

PG&E supplies customer load within the city with electricity imported on thirteen 115 kV underground cables, which are supplemented by local generation, and two 230 kV underground cables. The 115 kV cable ratings range from 130 MVA to 160 MVA; the 230 kV cables each have a 420 MVA rating. The cable system is configured to maximize electric supply to the seven transmission substations in San Francisco (Bayshore, Embarcadero, Larkin, Martin, Mission, Hunters Point Switchyard, and Potrero Switchyard), which supply the distribution system serving PG&E's customers in the city. The cable system also provides generation outlets for the Potrero and Hunters Point Power Plants.

1.5 PROJECT LOCATION

The proposed project is located in the eastern Potrero Hill, northern Bayview and Hunters Point neighborhoods of San Francisco (see **Figure 1-1**). The proposed project route traverses city street rights-of-way (ROW) predominately within commercial and industrial areas with the exception of passing a residential multi-unit located on Minnesota Street between 25th and 26th Streets.

1.6 PG&E'S PROPOSED PROJECT

PG&E's proposed project route (as shown on **Figure 1-1**) begins at the northwest corner of the Potrero Switchyard between 22nd and 23rd Streets, and runs south on Illinois Street until turning west on 23rd Street. From 23rd Street, the route turns south on Tennessee Street and continues for two blocks, until turning west on 25th Street. The route continues along 25th Street for a short distance, turns south on Minnesota Street (milepost [MP] 0.05), passing one residential building and continues for two blocks before turning west on Cesar Chavez Street. It follows Cesar Chavez Street crossing under Interstate 280 and the Caltrain railroad tracks and then turning south where it crosses property owned by the City and the San Francisco Chronicle. The route then turns west onto Marin Street before turning south-southeast onto Evans Avenue. The route follows Evans Avenue and crosses under Interstate-280 and the Caltrain railway and proceeds down Evans Avenue for approximately 1 mile before entering the Hunters Point Power Plant property. The route terminates at the Hunters Point Switchyard at MP 2.5.

PG&E has agreed to a mitigation measure that has been proposed to move a segment of the route from Minnesota Street between 25th Street and Cesar Chavez to Tennessee Street between 25th Street and Cesar Chavez (see **Figure 1-1**). The CPUC proposed this route change in response to comments received from the public during the public comment period for the Initial Study that reviewed the proposed project application. In order to reduce the potential proposed project's impacts to residents of Minnesota Street, mitigation has been proposed to move the route to Tennessee Street. Tennessee Street does not have any single or multi-family residences that

would be directly affected during project construction or operations. The proposed mitigation measure and potential impacts related to the proposed route change is discussed in detail in Section 2.9, *Land Use, Plans, and Policies* and further potential impacts are discussed in Section 2.3, *Air Quality* and Section 2.15, *Transportation and Traffic*.

1.7 RIGHT-OF-WAY REQUIREMENTS

The majority of project construction would be restricted to the width of the franchised areas (public ROW). A minimum construction access width of 65 feet would be required to allow for trench excavation and construction of the duct bank. PG&E's contractors would park construction equipment on the opposite side of the street. Additional space, which is further discussed in the *Special Construction Methods* section below, would be required at the vault and boring locations. The permanent underground electric transmission cable ROW where the cable line crosses City-owned and private property would be 45 feet in width.

1.8 CONSTRUCTION

1.8.1 REQUIRED CONSTRUCTION PRACTICES

The system would be installed and maintained in accordance with standard engineering practices and would conform, when applicable, with the National Electrical Safety Code, Rules for Construction of Underground Communications Systems (GO No. 128) of the California Public Utilities Commission, the California Administrative Code, Title 24, Part 3, and any other governmental agency standards¹² or codes which are adopted in the future which directly or indirectly apply to underground cable system construction standards.

1.8.2 UNDERGROUND CONSTRUCTION METHODS

The installation of the underground cable, duct banks, and splice vaults would be completed using a cut-and-cover method (open trenching) along the majority of the route. Crossings of railroads may require a duct bank crossing that allows continuous use of the railroad. The following steps represent the major construction activities.

STEP 1 – TRENCHING/DUCT BANK INSTALLATION

Prior to trenching, PG&E would notify other utility companies (via the Underground Service Alert) to locate and mark existing underground structures along the proposed cable line route, and also would conduct exploratory excavations (potholing) to approve the locations for proposed facilities. PG&E would apply for an excavation permit from the city for trenching in City streets. No roads would be completely closed, although one-way traffic controls would be implemented. PG&E would also coordinate with the Port of San Francisco for the section of Illinois Street, 23rd

¹² For a more detailed explanation of the requirements under GO 128 see <http://www.mid.org/services/esg/128.pdf>

Street, Tennessee Street and Evans Avenue within which the Port retains an underlying fee interest.

After the route is marked, the pavement within the trench line would be removed. The typical trench dimensions for installation of a single circuit would measure approximately 2 feet wide by 6 feet deep, although typical trench depths may vary depending on soil stability and the presence of existing substructures. The trench would be widened and shored where needed to meet California Occupational Safety and Health Administration safety requirements. Dewatering would be conducted using a pump or well points to remove water from the trench. The water would then be pumped into containment tanks and tested for turbidity and pH values. If the water meets acceptable discharge standards, it would be discharged into the storm sewer system. Otherwise, it would be disposed of in accordance with state and federal standards.

Typically, a maximum open trench length of 150 to 300 feet on each street would occur at any one time, depending on City permitting requirements. Steel plating would be placed over the trench to maintain vehicular and pedestrian traffic across areas that are not under active construction. This safety measure will also be completed at the conclusion of each construction day. Traffic controls would also be implemented to direct local traffic safely around the work areas. PG&E would apply for a Special Traffic Permit from the City and also coordinate provisions for emergency vehicle and local access with City personnel.

As the trench for the underground 115 kV cable is completed, PG&E would install the cable conduit, ground wire, and concrete conduit encasement duct bank. At about every 1,600 to 2,000 feet along the trench, the installation of splice vaults would require a larger excavation (as described in Step 2, below). The duct bank cover would measure at least 36 inches.

Most of the duct bank would be in a two-by-two duct configuration (see **Figure 1-2**), with occasional transitions to a flat configuration to clear substructures in highly congested areas or to fan out to termination structures at the switchyards. The duct bank typically would consist of four 6-inch-diameter polyvinyl chloride (PVC) conduits. The dimensions of the duct bank would be approximately 24 inches wide by 34 inches in height. One electrical cable would be contained within three of the 6-inch-diameter PVC conduits and one conduit would be left open as a spare for future use should a single cable fail. Fiber optic lines that PG&E asserts would be for system protection and communication would be housed in two 4-inch-diameter conduits that would be installed above the top level of the 6-inch-diameter conduits or along side of the 6-inch-diameter conduits depending on the trench configuration and within the thermal backfill. The three electrical cables that make up one circuit would be capable of carrying 200 MVA at the normal conductor temperature rating of 90 degrees centigrade. The 200 MVA load on this circuit would be met using copper conductor extruded dielectric cable.

A minimum radial clearance of 12 inches would be required where an electrical transmission duct bank crosses or runs parallel to other substructures such as gas lines, telephone lines, water mains, storm lines, and sewer lines. In addition, a 5-foot minimum radial clearance would be required where the new duct bank crosses another substructure at right angles. A 15-foot minimum radial

clearance would be required between the duct bank and any parallel substructure whose operating temperature significantly exceeds the normal earth temperature. Such facilities may include other underground transmission circuits, primary distribution cables (especially multiple-circuit duct banks), steam lines, or heated oil lines.

Once the PVC conduits are installed, thermal-select or controlled backfill would be transported, placed, and compacted. A road base backfill or slurry concrete cap would be installed and the road surface would be restored in compliance with the locally-issued permits. While the completed trench sections are being restored, additional trench line would be opened farther down the street. This process would continue until the entire conduit system is in place.

Throughout construction of the trench, duct bank, and vaults, the asphalt, concrete, and other excavated material would be hauled off to a temporary excavation material storage site that would be located at the PG&E General Construction yard at the northeast corner of 22nd Street and Illinois Street near the Potrero Switchyard. If suitable, any excavated material would be used as backfill. When necessary, clean backfill would be imported to the project area. Any excess materials would be tested and disposed of in accordance with applicable requirements. The total volume of materials to be excavated is estimated to be approximately 10,000 cubic yards.

Truck traffic generation would depend upon the rate of the trenching and the size of vault excavation, but would be approximately 33 trips per day. Jackhammers would be used occasionally to break up sections of concrete that the saw-cutting and pavement-breaking machines could not reach. Other miscellaneous equipment would include a concrete saw, various paving equipment, and pickup trucks. **Table 1-1** lists vehicles and equipment that are typically used to construct an underground cable transmission line project. In general, the only equipment left at the trench site overnight would be an excavator.

STEP 2 – VAULT INSTALLATION

As previously discussed, PG&E would excavate and place approximately eight preformed concrete power vaults at approximately 1,600 to 2,000 foot intervals and two communication vaults near every other installed power vault during trenching. The power vaults would be initially used to pull the cables through the conduits and to splice cables together. During operation, power vaults provide access to the underground cables for maintenance inspections and repairs. The vaults would be constructed of prefabricated, steel-reinforced concrete with inner dimensions of the power vaults being approximately 20 feet long, 10 feet wide, and 8 feet high and the communication vaults being approximately 6 feet long, 4 feet wide, and 6.5 feet deep. The vaults would be designed to withstand the maximum likely earthquake in the area, as well as heavy truck traffic.

The total excavation footprint for a power vault would be approximately 22 feet long, 12 feet wide, and 10 feet deep. Installation of each vault would occur over a one-week period with excavation and shoring of the vault pit followed by delivery and installation of the vault, filling and compacting the backfill, and repaving the excavation area.

TABLE 1-1
EQUIPMENT TYPICALLY USED DURING CONSTRUCTION

Equipment	Use
Pickup trucks	Transport construction personnel
2-ton flatbed truck	Haul materials
Flatbed boom truck	Haul and unload materials
Rigging truck	Haul tools and equipment
Mechanic truck	Service and repair equipment
Winch truck	Install and pull rope into position in conduits
Cable puller truck	Pull transmission cables through conduits
Cement trucks	Transport and pour backfill slurry
Shop vans	Store tools
Crawler backhoe	Excavate trenches (excavate around obstructions)
Large backhoe	Excavate trenches (main trencher)
Dump trucks	Haul trench and excavation materials/import backfill
Large mobile crane	Lift/load/set 20-ton cable reels and prefabricated 40-ton splice vaults and lift cable ends on terminating structures
Small mobile cranes (< 12 tons)	Load and unload materials
Cable reel trailers	Transport cable reels and feed cables into conduits
Splice trailer (40-foot)	Splicing supplies/air condition manholes
Air compressors	Operate air tools
Air tampers	Compact soil
Rollers	Repave streets over trench and manhole locations
Portable generators	Construction power
Horizontal dry boring equipment	For horizontal bores
Baker (water) storage tanks	Store water pumped from trenches, if needed
Pumps	Remove water from trench, if needed
Shoring boxes	Maintain trench walls, prevent collapse of loose soils or sand
Tank trucks	Transport water from Baker tanks, to process/disposal facility

SOURCE: Essex Environmental (2003)

STEP 3 – CABLE PULLING, SPLICING, AND TERMINATION

After installation of the conduit, PG&E would install cables in the duct banks. Each cable segment would be pulled into the duct bank, spliced at each of the vaults along the route, and terminated at the switchyards. The three electric cables and two communication cables would be pulled through individual ducts at the rate of two of the three segments between vaults per day. To pull the cable through the duct bank, a cable reel is placed at the end of a section and a pulling rig is placed at the other end of the section. A fish line is blown directly into the duct, attached to a larger rope that is then pulled into the duct. The rope is then attached to cable pulling eyes for pulling. To ease pulling tensions, a lubricant is applied to the cable as it enters the duct.

Cables would be spliced at all vaults after they are completely pulled through the ducts. During construction, the vaults must be kept dry at all times to prevent contamination of the unfinished splices with water or impurities. Splicing would usually take 8 to 10 hours per day. A splice trailer would be positioned adjacent to the vault manhole openings. A mobile power generator would be located directly behind the trailer.

At each end of the proposed route, cables would rise out of the ground on a transition structure and terminate at the switchyards.

STEP 4 – SPECIAL CONSTRUCTION METHODS

The proposed project may require three bores: two to cross the Third Street Light Rail ROW at the intersections of 23rd Street and Third Street and Evans Avenue and Third Street, and one to cross a railroad spur on Evans Avenue between Rankin Street and Quint Street. There are two types of borings: horizontal boring and directional drilling. Horizontal boring is an auguring operation that simultaneously pushes a casing beneath the obstruction, which is usually used for shorter crossings (less than 400 feet long). Directional drilling is performed by using a steerable jet bit to cut the earth and create a small pilot hole. Once the jet bit has reached the opposite side, a reamer is attached to widen the hole and pulled back, along with the casing, through the pilot hole. Directional drilling is usually used for longer bores. The ultimate boring method to be used at each location will be determined during the final design and engineering process.

PG&E anticipates that water would be used for dust suppression along the cable segment. The amount of water would vary depending on the length of access roads being used each day, the road surface conditions, the weather conditions, including temperature and wind speed, as well as other site-specific conditions. PG&E does not expect to require significant amounts of jobsite water for foundation construction or other activities. However, this could change if unexpected conditions arise. For example, actual soil properties or groundwater elevations may require alternative construction practices that could require additional water.

Boring would begin by digging a bore pit at the sending end and a trench at the receiving end of the bore. The bore pit would be approximately 50 feet long, 20 feet wide, and 20 feet deep. The receiving area for the bore casing would be approximately 10 feet by 20 feet. The elevation at the

bottom of the bore pit and the receiving trench would be approximately equal. The bore equipment would then be installed in the bore pit. The steel casing would be welded in 10- to 15-foot sections and jacked into the bore as the boring operation proceeds. At each bore crossing, a minimum rectangular construction access area approximately 100 feet long by 80 feet wide for equipment staging would be required to perform the bore operation.

STEP 5 – JOB SITE CLEANUP

As part of the final project construction activities, PG&E would restore all removed curbs, gutters, and sidewalks, repave all removed or damaged paved surfaces, restore landscaping or vegetation as necessary, and clean up the job site to preconstruction conditions.

1.8.3 CONSTRUCTION AT SWITCHYARDS

At each switchyard, the following equipment would be installed within the existing fence lines:

- one termination structure;
- one transition structure;
- one breaker (switch);
- one coupling capacitive voltage transformer (CCVT) structure; and
- bus connections from the new cable to the existing structures within each switchyard.

The termination structures, shown in **Figure 1-3**, would consist of both underground and aboveground components. The aboveground portion would consist of three 16-foot-tall poles. The transition structures, shown in **Figure 1-4**, would be low-profile tubular steel pole frame structures measuring 40 feet wide and 45 feet high. The breaker (switch) structures, shown in **Figures 1-5** and **1-7**, would be approximately 40 feet wide, 50 feet high, and 40 feet long. The Coupling Capacitive Voltage Transformer (CCVT) structure, shown in **Figure 1-6**, would be approximately 7 feet tall and 15 feet wide. Neither switchyard would be expanded beyond the existing fence line for these modifications.

At the Potrero Switchyard, the bus connection would be attached to an existing bay (Bay 17). The transition structure and breaker would be installed within the switchyard toward the southeastern side of the station behind Bay 17.

At the Hunters Point Switchyard, the transition structure would be installed near the eastern end of the switchyard on the upper bench of the station. A new prefabricated metal control building, measuring 16 feet wide by 48 feet long would be installed to house relays. This control building would be located north of Evans Avenue and immediately south of an existing 40-foot-tall water tank, some smaller tanks, and aboveground piping. Photographs of a representative control building are included in **Figure 1-7**. The breaker and CCVT structure would be installed near the middle of the station on the lower bench.

Halophane light fixtures would be installed on the breaker and bus structure at each switchyard and on the control building at the Hunters Point Switchyard at a height of approximately 9 feet pointing downward.

1.8.4 PERSONNEL

PG&E expects to utilize approximately 25 construction personnel for excavation and conduit installation and approximately 6 truck drivers during conduit installation using two excavation crews. Approximately 15 construction personnel would be employed during cable installation. The number of employees would peak at approximately 60 and would include switchyard workers, supervisors, and inspectors. About 20 percent of the construction crew would be composed of local PG&E employees.

1.8.5 CONSTRUCTION SCHEDULE

PG&E projects that in order to enable project operation by December 2005, project construction must begin on or before April 1, 2005 (Essex Environmental, 2003). The entire proposed project should be completed in approximately nine months, barring unexpected complications. Conduit installation would take approximately eight months and cable installation would take approximately two months, overlapping conduit installation by one month.

Project construction would occur between 7:00 a.m. and 8:00 p.m., or during times set by the City in the Excavation Permit. If trenching work would cause traffic congestion, the City may require nighttime work to avoid traffic disruption. Mitigation measures have been proposed by PG&E to avoid adverse impacts to traffic as are provided in Section 2.15, *Transportation and Traffic*. In addition, mitigation measures for noise impacts from nighttime construction are provided in Section 2.11, *Noise*. PG&E would identify any applicable city, county, state, federal, and railroad regulations, ordinances, and restrictions to be complied with prior to and during construction.

1.9 OPERATION AND MAINTENANCE

1.9.1 FACILITY INSPECTION

Regular inspection of power lines, instrumentation and control, and support systems is critical for safe, efficient, and economical operation. Early identification of items needing maintenance, repair, or replacement would ensure continued safe operation of the project. Aboveground components would be inspected at least annually for corrosion, equipment misalignment, loose fittings, and other common mechanical problems. The underground portion of the line would be monitored regularly from inside the vaults; therefore, inspections would not significantly disturb traffic using city streets.

1.10 REQUIRED APPROVALS

The following permits and approvals would be required for construction of the proposed project:

- Permit to Construct in compliance with GO No. 131-D of the California Public Utilities Commission
- Compliance with CEQA
- National Pollutant Discharge Elimination System Stormwater Construction Permit for discharges of stormwater associated with Small Linear Underground/Overhead Construction Projects (General Permit)-Regional Water Quality Control Board
- Excavation Permit – City and County of San Francisco to construct within roadways and railroads
- Special Traffic Permit – City and County of San Francisco for lane and sidewalk closures
- Night Noise Permit – City and County of San Francisco
- Encroachment permits from Caltrans District 4 for crossings of Interstate 280, and from the Peninsula Corridor Joint Powers Board for crossings of the Caltrain tracks
- Land Rights Permit from Port of San Francisco as the underlying fee owner of streets crossed by this route¹³ for the railroad tracks that cross Arthur Avenue and Quint Street.

1.11 POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

Table 1-2 summarizes the potential impacts and proposed mitigation measures for the proposed project. Table 1-2 includes mitigation measures that PG&E proposed in the proponent's environmental assessment (PEA) to mitigate impacts to the surrounding environment, as well as those proposed by the CPUC in the MND. The mitigation measures summarized in Table 1-2 would reduce potentially significant environmental impacts to a less than significant level.

¹³ The Port of San Francisco has an underlying fee interest in portions of Illinois Street, 23rd Street, Tennessee Street and Evans Avenue that were once below the old high tide line as surveyed in 1883.

TABLE 1-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
<i>Aesthetics</i>			
No significant impacts anticipated for aesthetics.			
<i>Agricultural Resources</i>			
No significant impacts anticipated for agricultural resources.			
<i>Air Quality</i>			
AQ-1: Construction and demolition activities associated with facility construction would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions.		AQ-1: The following measures prescribed by BAAQMD shall be implemented to ensure that construction impacts are less than significant	Less than Significant
	APM-1a: All construction personnel working on the project shall be trained prior to starting construction on methods for minimizing air quality impacts during construction.		
	APM-1b: All active construction areas, access roads, and staging areas shall be watered down as necessary to control dust.	<ul style="list-style-type: none"> Construction areas, unpaved access roads, and staging areas shall be watered at least twice daily during dry weather, or soil stabilizers shall be applied during active work. 	
	APM-1c: All trucks hauling soil and other loose material shall be covered, or at least two feet of freeboard shall be maintained around the sides of the truck bed.	<ul style="list-style-type: none"> Trucks hauling soil and other loose material shall either be covered, have at least two feet of freeboard, or be sprayed with water prior to arriving and departing from the construction site. 	
	APM-1d: Streets, paved access roads, and parking lots shall be swept daily with water sweepers if visible soil material is carried onto adjacent public streets.	<ul style="list-style-type: none"> Paved access roads, parking areas, and staging areas at construction sites and streets shall be cleaned daily with water sweepers if excessive soil material is carried onto adjacent public streets. 	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
	APM-1e: Exposed stockpiles of soil and other excavated materials shall be enclosed or covered as necessary to control dust.	<ul style="list-style-type: none"> Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.). 	
	APM-1f: Vegetation removed during construction shall be restored to preconstruction conditions.	<ul style="list-style-type: none"> Replant vegetation in disturbed areas as quickly as possible after project completion, taking into account optimal season and survival rates. 	
		<ul style="list-style-type: none"> Construction vehicles shall use paved roads to access the construction site wherever possible. 	
		<ul style="list-style-type: none"> Vehicle speeds shall be limited to 15 mph or less on unpaved roads and construction areas. 	
		<ul style="list-style-type: none"> A carpooling strategy shall be implemented for construction workers prior to commencing construction (during construction worker orientation and training). This strategy shall be submitted to and approved by the CPUC prior to commencement of project construction. 	
		<ul style="list-style-type: none"> Vehicles used for construction activities shall be tuned per the manufacturers' recommended maintenance schedule, if reasonably available. 	
		<ul style="list-style-type: none"> Vehicle idling time shall be minimized to 10 minutes whenever possible. 	
		<ul style="list-style-type: none"> Install sandbags or other erosion control measures to prevent silt runoff to public roadways. 	
		<ul style="list-style-type: none"> Suspend excavation and grading activity when dust control mitigation measures become ineffective due to excessive winds. 	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
		<ul style="list-style-type: none"> Designate a person or persons to monitor the dust control program and order increased watering, as necessary, to prevent transport of dust offsite. The name and telephone number of such persons shall be provided to the BAAQMD prior to the start of construction. 	
		The CPUC mitigation monitor shall oversee compliance with the above measures during construction.	
AQ-2: Project construction could result in the release of toxic air contaminant (TAC) emissions during disturbance of contaminated soils and/or serpentine rocks.		AQ-2: In addition to implementation of Mitigation Measure AQ-1, the following measures prescribed by BAAQMD shall be implemented to ensure that TAC emissions from construction activities would be less than significant	Less than Significant
		<ul style="list-style-type: none"> Notification to BAAQMD of construction activities, such as grading operations, when the activity occurs in areas where ultramafic and serpentine rock or naturally-occurring asbestos may be found, shall be required. 	
		<ul style="list-style-type: none"> Ensure that construction operations do not result in visible emissions crossing the project boundaries in areas where hazardous waste or serpentine rocks exist. 	
		<ul style="list-style-type: none"> Construction project that will disturb less than one acre of asbestos containing material, as defined by California Code of Regulation, Title 17, Section 93000, shall comply with all applicable BAAQMD regulatory requirements. 	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
		<ul style="list-style-type: none"> Construction projects that will disturb more than one acre of asbestos containing material, as defined by the California Code of Regulations, Title 17, Section 93000, shall prepare and obtain BAAQMD approval for an asbestos dust mitigation plan. The plan shall specify how the operation will minimize emissions and must address specific emission sources. 	
		<ul style="list-style-type: none"> Removal of any asbestos containing materials shall be performed by a CAL-OSHA certified, licensed asbestos abatement contractor in accordance with California Code of Regulations, Title 8, Section 1529. 	
		<ul style="list-style-type: none"> If structures are disturbed containing asbestos and the material becomes friable, removal of friable materials with a concentration of one percent or greater and at a quantity of 160 square feet or 260 linear feet or greater shall require notification to the Regional EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) office and BAAQMD. 	
		<ul style="list-style-type: none"> All handling and disposal of hazardous materials and waste shall be done in compliance with applicable regulatory requirements including, but not limited to, those administered by U.S. EPA, BAAQMD, Department of Toxic Substances Control (DTSC), San Francisco RWQCB, and Cal-OSHA. 	
		Additionally, Mitigation Measure HAZ-1b and LUP-1 shall be implemented to minimize impacts to sensitive receptors.	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
<i>Biological Resources</i>			
No significant impacts anticipated for biological resources.			
<i>Cultural Resources</i>			
CR-1: Project construction could result in the disturbance of unknown buried prehistoric cultural resources and/or potential historic contents in artificial fill material along the project route.		CR-1a: Pursuant to CEQA Guidelines 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction" shall be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and PG&E shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of PG&E and the qualified archaeologist shall meet to determine the appropriate course of action. All significant cultural resource materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.	Less than Significant

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
	<p>APM-2a: Prior to the initiation of construction or ground-disturbance, all construction personnel shall be trained on the potential for exposing subsurface cultural resources. The training shall provide information on the procedures to be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains.</p> <p>APM-2b: A monitor shall be on-site during all underground trenching activities to watch for potential discoveries.</p> <p>APM-2c: Upon discovery of possible buried cultural materials (including potential Native American skeletal remains), work in the immediate area of the find shall be halted and the monitor shall be notified. Once the find has been identified and evaluated, a qualified archaeologist shall make the necessary plans for treatment of the find and mitigation of impacts if the find is determined to be significant as defined by the California Environmental Quality Act. PG&E will comply with all State laws in the event of the exposure of Native American skeletal remains.</p>	<p>CR-1b: PG&E shall notify a qualified paleontologist of any unanticipated discoveries made by either the cultural resources monitor or construction personnel and subsequently document the discovery as needed. In the event of an unanticipated discovery of a breas, or seeps of natural petroleum that trapped extinct animals and preserved and fossilized their remains, and/or trace fossil during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find.</p>	
CR-2: Project construction could result in the discovery and disturbance of unknown human remains.	See. APM-2a, 2b, and 2c.	CR-2: In the event of the discovery of human remains, measures shall be followed pursuant to CEQA Guidelines 15064.5 (e) (1).	Less than Significant

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
		<p>(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:</p> <p>(A) The City of San Francisco Coroner shall be contacted to determine that no investigation of the cause of death is required, and</p> <p>(B) If the Coroner determines the remains to be Native American:</p>	
		<ol style="list-style-type: none"> 1. The Coroner shall contact the Native American Heritage Commission within 24 hours. 2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. 3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98. 	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
<i>Geology, Soils, and Seismicity</i>			
GEO-1: Structural damage could occur over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils.		GEO-1: A site-specific, design level geotechnical investigation shall be performed to assess the extent and consequence of the expansive soils. The sub grade shall be prepared and foundations constructed as recommended in the investigation to limit the impact due to expansive soils to less than significant. Recommendations and conclusions determined by a registered geotechnical engineer or qualified civil engineer shall be incorporated in the final design as part of the project. The design measures selected to mitigate expansive soil hazards shall be submitted to and approved by PG&E and the CPUC.	Less than Significant
GEO-2: The proposed project could result in increased erosion, especially in areas that are underlain by Bay Mud and other fine-grained material and also where the soil would be exposed during construction.		GEO-2: During construction and grading, erosion and sediment control measures shall be conducted in accordance with best management practices for the reduction of pollutants in runoff (refer to Section 2.8, <i>Hydrology and Water Quality</i>). The components of the proposed project would be subject to NPDES requirements and would require the acquisition of a NPDES general construction permit. Erosion of soil materials to local waterways and its affects on water quality are further discussed in Section 2.8, <i>Hydrology and Water Quality</i> . Best management practices for sediment and dust control shall be implemented to limit the impact due to erosion to a less than significant level. Best management erosion control measures shall also be implemented in unpaved areas, including the property between Cesar Chavez and Marin Streets.	Less than Significant

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
GEO-3: The proposed project could be adversely affected by differential settlement, fault rupture, liquefaction, and seismic-related ground failure.		GEO-3: A site-specific, design level geotechnical investigation, shall be performed to assess the potential for liquefaction and seismic-related ground failure in susceptible areas along the selected project route. The duct bank and vaults shall be designed to accommodate or mitigate the effects of ground settlement and loss of foundation bearing strength in the event of an earthquake. A geotechnical assessment of the rail crossings at Third and 23rd Streets, Third and Evans Avenue, and Evans Avenue and Quint Street, shall be performed to ensure that the boring alignment and bore casing design appropriately address and minimize the impact of liquefaction. Recommendations and conclusions determined by a registered geotechnical engineer or qualified civil engineer shall be incorporated in the final design as part of the project. PG&E shall submit the design measures selected to mitigate liquefaction to the CPUC for review and approval.	Less than Significant
GEO-4: The proposed project is in an area underlain by artificial fill, which could be susceptible to earthquake-induced settlement.		GEO-4: A site-specific, design level geotechnical investigation shall be performed to assess the extent and consequence of ground instability. The duct bank, vaults, and substation structures shall be designed to accommodate or mitigate the effects of ground settlement and loss of foundation bearing strength in the event of an earthquake. Recommendations and conclusions determined by a registered geotechnical engineer or qualified civil engineer shall be incorporated in the final design as part of the project. PG&E shall submit the design measures selected to mitigate ground instability hazards to the CPUC for review and approval.	Less than Significant

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
GEO-5: The proposed project could be susceptible to ground shaking effects in the event of an earthquake.		GEO-5a: Switchyard components, new substation equipment, structures and foundations shall be procured and designed in accordance with PG&E's engineering practices, which include the application of seismic design provisions (e.g., the Institute of Electrical and Electronic Engineers (IEEE) 693 for selected critical equipment, the current edition of the California Building Code (CBC), and various industry standards) intended to mitigate earthquake damage to substation equipment and structures. The design criteria selected to mitigate ground shaking hazards shall be submitted to and approved by PG&E and the CPUC.	Less than Significant
<i>Hazards and Hazardous Materials</i>			
HAZ-1: Construction excavation could encounter contaminated materials, causing an increase in risk of exposure of hazardous materials to humans and the environment. In addition, construction activities requiring the use of hazardous materials may increase the risk of exposure to hazardous materials.		HAZ-1a: PG&E shall ensure, through the enforcement of contractual obligations, that all contractors transport, store, and handle construction-related hazardous materials in a manner consistent with relevant regulations and guidelines, including those recommended and enforced by the U.S. Department of Transportation, RWQCB, San Francisco Department of Public Health, and the local fire department. PG&E shall also ensure that all contractors control the source of any leak and immediately contain any spill utilizing appropriate spill containment and countermeasures. If required by any regulatory agency, contaminated media shall be collected and disposed of at an off-site facility approved to accept such media. In addition, all precautions required by the RWQCB-issued National Pollution Discharge Elimination System (NPDES) construction activity storm water permits shall be taken to ensure that no hazardous materials enter any storm drains or nearby waterways.	Less than Significant

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
		<p>HAZ-1b: PG&E shall implement all development requirements within the area regulated under San Francisco's Maher Ordinance, which include soil sampling and analysis for specific inorganic and organic chemicals. PG&E shall also implement its specific protocol for subsurface soil sampling and testing for contaminated soils during construction activities. In addition to the requirements of the Maher Ordinance and PG&E's protocols, the following mitigation measures shall be implemented to ensure that impacts regarding the potential to expose the public, workers, and the environment to contaminated soil, surface, and/or groundwater along the proposed route would remain less than significant.</p>	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
	<p>APM-3a: A Hazardous Substance Control and Emergency Response Plan shall be prepared for the project and implemented during construction. It shall prescribe hazardous material handling procedures to reduce the potential for a spill during construction, or exposure of the workers or public to hazardous materials. The plan shall provide a discussion of appropriate response actions in the event that hazardous materials are released or encountered during excavation activities.</p> <p>The plan shall include proposed methodologies for managing excavation materials, including asphalt, concrete, debris, and soil. Details on dust control, runoff control, tarping, and air monitoring (of the trench and temporary excavated materials storage areas) shall be included in the plan. The plan shall be submitted to the Hazardous Material Unified Program Agency, or another appropriate oversight agency, for approval prior to initiating excavation activities.</p>	<ul style="list-style-type: none"> • <i>Hazardous Substance Control and Emergency Response Plan</i> – PG&E shall prepare a Hazardous Substance Control and Emergency Response Plan (the Plan) for the project and implement it during project construction. The Plan shall prescribe hazardous material handling procedures to reduce the potential for a spill during construction, or exposure of the workers or public to hazardous materials. The Plan shall also include a discussion of appropriate response actions in the event that hazardous materials are released or encountered during excavation activities. In addition, the Plan shall include proposed methodologies for tracking and managing excavation materials, including asphalt, concrete, debris, and soil. Details on dust control, runoff control, tarping, and air monitoring (of the trench and temporary excavated materials storage areas) shall be included in the Plan. PG&E shall submit the Plan to the Hazardous Material Unified Program Agency, or another appropriate oversight agency, for review and approval prior to initiating any project-related excavation activities. 	
	<p>APM-3b: A Health and Safety Plan shall be written and implemented to ensure the health and safety of construction workers and the public during project construction. The plan shall include information on the appropriate personal protective equipment to be used during excavation activities, sample collection, and material loading, testing, and disposal.</p>	<ul style="list-style-type: none"> • <i>Health and Safety Plan</i> – PG&E shall prepare and implement a Health and Safety Plan to ensure the health and safety of construction workers and the public during project construction. The Plan shall include information on the appropriate personal protective equipment to be used during excavation activities and material loading, testing, and disposal. 	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
	APM-3c: A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared for the project and implemented during construction. The SWPPP shall contain information on engineering controls to minimize turbid stormwater runoff or the acceleration of sedimentation rates.	<ul style="list-style-type: none"> • <i>Stormwater Pollution Prevention Plan</i> – PG&E shall prepare a Stormwater Pollution Prevention Plan (SWPPP) for the proposed project to be implemented during construction. The SWPPP shall contain information on engineering controls to minimize turbid stormwater runoff or the acceleration of sedimentation rates. 	
	APM-3d: An environmental training program shall be established and delivered to communicate environmental concerns and appropriate work practices to all construction field personnel. The training program shall emphasize site-specific physical conditions to improve hazard prevention, and shall include a review of the Health and Safety Plan, Hazardous Substance Control and Emergency Response Plan, and the SWPPP.	<ul style="list-style-type: none"> • <i>Environmental Training Program</i> – PG&E shall ensure that an environmental training program is established and implemented to communicate environmental concerns and appropriate work practices to all construction field personnel. The training program shall emphasize site-specific physical conditions to improve hazard prevention and shall include a review of the Health and Safety Plan, Hazardous Substance Control and Emergency Response Plan, and the SWPPP. 	
	APM-3e: Oil-absorbent material, tarps, and storage drums shall be used to contain and control any minor releases of oil. Emergency-spill supplies and equipment shall be kept adjacent to all areas of work and in staging areas, and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials shall be provided in the project's Hazardous Substance Control and Emergency Response Plan, which shall be implemented during construction.	<ul style="list-style-type: none"> • <i>Emergency Spill Supplies and Equipment</i> – PG&E shall ensure that oil-absorbent material, tarps, and storage drums are used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept adjacent to all areas of work and in staging areas and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting released hazardous materials shall be provided in the proposed project's Hazardous Substance Control and Emergency Response Plan, which shall be implemented during construction. 	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
	<p>APM-3f: A trained environmental monitor shall be present during all project excavation activities. The monitor shall be equipped with the appropriate equipment to monitor air quality in excavation trenches, and to observe excavation spoils for the presence of potentially hazardous materials. The monitor shall have the experience and authority to select the appropriate personal protective equipment, determine appropriate soil and groundwater handling and disposal requirements, modify work activities, or stop work at any time to ensure worker and public health and safety.</p>	<ul style="list-style-type: none"> <i>Environmental Field Monitoring</i> – PG&E shall ensure that a trained environmental monitor be present during all proposed project excavation activities. The monitor shall be equipped with the appropriate equipment to monitor air quality in excavation trenches and to observe excavation spoils for the presence of potentially hazardous materials. PG&E shall ensure that the monitor has the experience and authority to select the appropriate personal protective equipment, determine appropriate soil and groundwater handling and disposal requirements, modify work activities, or stop work at any time to ensure worker and public health and safety. The environmental monitor shall be approved by the CPUC prior to the start of construction activities. 	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
	<p>APM-3g: Excavated materials shall be separated into asphalt, concrete, debris, and soil, and hauled to one of the excavated materials storage areas located near the Potrero Switchyard. Each material shall be placed on plastic sheeting, moistened to control dust, and covered in a manner to prevent runoff of turbid or contaminated stormwater. Analyses to determine the presence of hazardous materials in material to be disposed of shall be performed to determine the proper handling, transport, and disposal methods. The specific hazardous material disposal site(s) have not been identified at this time as PG&E shall use the analytical results to determine which landfill in the area is classified to receive the excavated materials.</p> <p>If groundwater is encountered in the excavation trenches, it shall be contained in Baker tanks and tested for turbidity and potential contaminants prior to being disposed of in accordance with local regulations. Non-contaminated groundwater shall be released to the stormwater conveyance system (with prior approval).</p>	<ul style="list-style-type: none"> <i>Storage, Testing, and Disposal of Excavated Materials and Groundwater</i> – PG&E shall ensure that excavated materials are separated into asphalt, concrete, debris, and soil. Soils and any potentially contaminated materials shall be and hauled to one of the excavated materials storage areas located near the Potrero Switchyard. Each material shall be placed on plastic sheeting, moistened to control dust, and covered in a manner to prevent runoff of turbid or contaminated stormwater. Analyses to determine the presence of hazardous materials in material to be disposed of shall be performed by EPA certified laboratories to comply with the requirements of the receiving landfill. PG&E shall ensure that all contaminated soils are disposed of at either a Class I or Class II landfill, depending on the extent of hazardous materials contamination in the soils. Laboratory test reports shall be used to determine the proper handling, transport, and disposal methods. 	
		If groundwater is encountered in the excavation trenches, it shall be contained in Baker tanks and tested for turbidity and potential contaminants prior to being disposed of in accordance with local regulations. Non- contaminated groundwater shall be released to the stormwater conveyance system (with prior approval).	
		Additionally, Mitigation Measure LUP-1, provided in Section 2.9 <i>Land Use</i> , shall be implemented to minimize impacts to sensitive receptors.	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
<i>Hydrology and Water Quality</i>			
HYD-1: The proposed project could result in adverse impacts to groundwater quality.	APM-4a: Once the duct bank is installed, it shall be surrounded with concrete. Above the duct bank, the trench shall be filled with fluidized thermal backfill (a blend of sand, gravel, fly ash, and cement) and/or approved ¹⁴ native backfill. Because permeability of these materials is low, a section of drainpipe shall be laid across the trench directly above the concrete at approximately 100-foot intervals to allow groundwater to pass through the low permeability backfill material. Alternatively, gravel drains or other drainage measures may be installed across the pipeline.	HYD-1: After installation of the duct bank, it shall be surrounded with concrete. The trench shall be filled with fluidized thermal backfill, a blend of sand, gravel, fly ash, and cement above the duct bank. Because the permeability of these materials is low, a section of drainpipe shall be laid across the trench directly above the concrete at approximately 100-foot intervals to allow groundwater to pass through these materials. Alternatively, gravel drains or other drainage measures may be installed across the cable line.	Less than Significant
<i>Land Use, Plans, and Policies</i>			
LUP-1: Project construction could result in adverse impacts, associated with traffic congestion and noise, to adjacent residential land uses along Minnesota Street between 25th and 26th Streets.		LUP-1: PG&E shall move the segment of the proposed project route from 25th Street between Tennessee and Minnesota Streets and Minnesota Street between 25th and Cesar Chavez Streets to instead continue down Tennessee Street from 25th Street to Cesar Chavez Streets and then travel east along Cesar Chavez Street.	Less than Significant
<i>Mineral Resources</i>			
No significant impacts anticipated for mineral resources.			

¹⁴ Backfill will be tested per Mitigation Measure HAZ-1b to determine if hazards exist, and to ensure the material is classified as potential backfill. If the material complies with all standards and is classified as potential backfill, it is considered approved for use as such.

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
<i>Noise</i>			
NOI-1: Construction activities would intermittently and temporarily generate noise levels above existing ambient levels in the project vicinity.	APM-5a: Intake and exhaust mufflers recommended by the manufacturers shall be installed on impact tools and equipment.	NOI-1: PG&E shall ensure that the following construction noise mitigation measures are implemented. <ul style="list-style-type: none"> Intake and exhaust mufflers recommended by the manufacturers will be installed on impact tools and equipment. 	Less than Significant
	APM-5b Pavement breakers and jackhammers shall be equipped with acoustically attenuated shields or shrouds recommended by the manufacturers.	<ul style="list-style-type: none"> All equipment used on the project shall be muffled and maintained in good operating condition. All internal combustion engine-driven equipment shall be fitted with intake and exhaust mufflers which are in good condition. 	
	APM-5c Standard practices shall be implemented when feasible, including directing exhausts away from buildings and shielding other equipment.	<ul style="list-style-type: none"> Construction contractors shall locate fixed construction equipment such as compressors as far as possible from noise-sensitive receptors during construction. 	
	APM-5d No construction shall take place within 100 feet of residences at night (8 p.m. to 7 a.m.).	<ul style="list-style-type: none"> Construction hours shall be limited to between the hours of 7:00 a.m. and 8:00 p.m. in areas where residential receptors exist within 100 feet of construction or in accordance with the requirements of the excavation permit issued by the City of San Francisco. 	
		<ul style="list-style-type: none"> Pavement breakers and jack hammerers shall be equipped with acoustically attenuated shields or shrouds recommended by the manufacturers. 	
		Additionally, Mitigation Measure LUP-1, provided in Section 2.9 <i>Land Use</i> , shall be implemented to minimize impacts to sensitive receptors.	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
NOI-2 Project construction could result in temporary adverse impacts to nearby buildings or receptors due to excessive construction vibration.	See APM-5b	NOI-2: Vibratory drivers instead of conventional pile drivers shall be used where feasible and effective in reducing noise and vibration impacts from shoring of jack-pit and thrust-block excavations in close proximity to sensitive receptors.	Less than Significant
		Additionally, Mitigation Measure LUP-1, provided in Section 2.9 <i>Land Use</i> , shall be implemented to minimize impacts to sensitive receptors.	
<i>Population and Housing</i>			
PH-1: Construction activities would result in the temporary displacement of the homeless population that currently resides along the proposed project route.		PH-1: PG&E shall contact and coordinate with the Mayor's Office on Homelessness to inform the resident population on the project roadways about displacement due to construction.	Less than Significant
<i>Public Services</i>			
PS-1: The proposed facilities could be subject to vandalism and/or terrorism.		PS-1: All manhole covers installed as part of the proposed project shall be consistent with PG&E standard manhole covers. Each manhole cover shall weigh at least 350 pounds or the covers shall be bolted to the manhole frame at four locations using a stainless steel pent-head bolt whenever the manhole is not in use.	Less than Significant
PS-2: Project construction activities would result in the temporary closure and/or restriction of some parks, including the Bay Trail.		PS-2a: PG&E shall coordinate with the City and County of San Francisco Park and Recreation Department and the Association of Bay Area Governments' Bay Trail staff prior to closure and/or restriction of park and recreation facilities.	Less than Significant
		PS-2b: Park facilities, including the Bay Trail along Illinois Street between 22nd and 23rd Streets shall not be closed and/or restricted for a period of time exceeding two consecutive weeks, unless there are extenuating circumstances.	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
<i>Recreation</i>			
No significant impacts anticipated for recreation.			
<i>Transportation / Traffic</i>			
TRA-1: Project construction within existing streets would reduce the number of, or the available width of, travel lanes on roads, resulting in temporary disruption of traffic flows and increases in traffic congestion.		TRA-1a: PG&E shall obtain and comply with local and state road encroachment permits, and railroad encroachment permits.	Less than Significant
		TRA-1b: PG&E shall implement the following transportation/traffic measures.	
	APM-6a: PG&E shall prepare and implement a Traffic Management Plan that is subject to approval by the City and County of San Francisco prior to construction. The plan shall:	<ul style="list-style-type: none"> PG&E shall prepare and implement a Traffic Management Plan. PG&E shall submit the Plan to the City and County of San Francisco for review and approval prior to construction. The plan shall: 	
	<ul style="list-style-type: none"> Include a discussion of work hours, haul routes, limits on the lengths of open trench, work area delineation, traffic control, and flagging. Identify all access and parking restrictions and signage requirements. 	<ul style="list-style-type: none"> include a discussion of work hours, haul routes, limits on the lengths of open trench, work area delineation, traffic control and flagging; identify all access and parking restrictions and signage requirements; 	
	<ul style="list-style-type: none"> Layout a plan for notifications and a process for communicating with affected residents and businesses prior to the start of construction. Advance public notification shall include postings of notices and appropriate signage of construction activity. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access points/driveways shall be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints. 	<ul style="list-style-type: none"> layout a plan for notifications and a process for communicating with affected residents and businesses prior to the start of construction. Advance public notification would include postings of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access points/driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints; 	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
	<ul style="list-style-type: none"> Include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times. 	<ul style="list-style-type: none"> include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times; 	
	<ul style="list-style-type: none"> Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access. 	<ul style="list-style-type: none"> include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; 	
	<ul style="list-style-type: none"> Specify the street restoration requirements pursuant to PG&E's franchise agreements with the City and County of San Francisco. 	<ul style="list-style-type: none"> specify the street restoration requirements pursuant to PG&E's franchise agreements with the City and County of San Francisco; 	
	<ul style="list-style-type: none"> Discuss temporary pedestrian, wheelchair, and bicycle access through detours or safe areas along the construction zone, where construction shall result in the temporary closure of sidewalks or bike lanes. These areas shall be delineated and signed. 		
		<ul style="list-style-type: none"> PG&E shall identify all roadway locations where special construction techniques (e.g., horizontal boring, directional drilling or night construction) would be used to minimize impacts to traffic flow. 	
		<ul style="list-style-type: none"> PG&E shall develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone. 	

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
		<ul style="list-style-type: none"> PG&E shall consult with San Francisco Muni at least one month prior to construction to coordinate bus stop relocations (as necessary) and to reduce potential interruption of transit service. 	
		<ul style="list-style-type: none"> PG&E shall coordinate with the City and County of San Francisco, San Francisco Muni, the Port of San Francisco, and any other appropriate entity, regarding measures to minimize the cumulative effect of simultaneous construction activities in overlapping areas. 	
	APM-6b: If excavation is scheduled to occur while the moratorium is in effect on 23rd Street, PG&E shall repave and restripe the entire street from curb to curb (not just the area that was trenched).	<ul style="list-style-type: none"> If excavation is scheduled to occur while the moratorium is in effect on Cesar Chavez Street (until January 1, 2005) and on 23rd Street (until June 2, 2005), PG&E shall repave and restripe the entire street from curb to curb (not just the area that was trenched). 	
TRA-2: Project construction would result in short-term increases in vehicle trips by construction vehicular activities and construction workers.		TRA-2: Implement Mitigation Measures TRA-1 and TRA-1b.	Less than Significant
TRA-3: Project construction within roadways and railroad rights-of-way would temporarily increase the potential for accidents.		TRA-3: Implement Mitigation Measures TRA-1 and TRA-1b.	Less than Significant
TRA-4: Project construction within or across streets would affect emergency access, and access to local land uses.		TRA-4: Implement Mitigation Measures TRA-1 and TRA-1b.	Less than Significant
TRA-5: Project construction could temporarily disrupt bus service along the proposed project route.	APM-6c: PG&E shall consult with San Francisco Muni at least one month prior to construction to coordinate bus stop relocations (as necessary) and to reduce potential interruption of transit service.	TRA-5: Implement Mitigation Measures TRA-1 and TRA-1b.	Less than Significant

TABLE 1-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PG&E'S POTRERO TO HUNTERS POINT 115 kV CABLE PROJECT

ENVIRONMENTAL IMPACT	MITIGATION MEASURES PROPOSED IN THE APPLICANT'S PEA	MITIGATION MEASURES PROPOSED IN THIS MND	SIGNIFICANCE AFTER PROPOSED MND MITIGATION
<i>Utilities and Services</i>			
No significant impacts anticipated for utilities and services.			

REFERENCES – Project Description

- Black and Veatch, 2003. *Potrero to Hunters Point 115kV Underground Cable Project Feasibility Study*. October 2003.
- Bingtan, Alex, 2004. PG&E Transmission Planner, Personal Communication. September 23, 2004.
- California Independent System Operator (CAISO), 2004. Memorandum to ISO Board of Governors from Marcie Edwards, regarding Action Plan for San Francisco, Options and Risks. September 2004.
- CAISO, 2004a. *San Francisco Peninsula Long-Term Transmission Planning Study: Phase 2 Study Plan*. April 1, 2004.
- CAISO, 2000. *California Grid Planning Criteria are the Planning Standards and Guidelines of the North American Electric Reliability Council (NERC)*.
- CAISO, 2000a. *San Francisco Peninsula Long – Term Electric Transmission Planning Technical Study: 2004-2009*. October 24, 2000.
- CPUC, 2004. Final Decision Granting a Certificate of Public Convenience and Necessity. Comment Decision No. 04-08-046, August 19, 2004..
- CPUC, 2002. Testimony of PG&E Company Regarding Issues with Jefferson to Martin 230 kV Cable In the Matter of the Application of Pacific Gas and Electric Company for a Certificate of Public Convenience and Necessity Authorizing Construction of the Jefferson-Martin 230 kV Transmission Project. Application No. A-02-09-043. September 30, 2002.
- Essex Environmental, 2004. *PG&E Potrero to Hunters Point 115 kV Cable Project Proponent's Environmental Assessment*. July 2004.
- Essex Environmental, 2003. *PG&E Potrero to Hunters Point 115 kV Cable Project Proponent's Environmental Assessment*. December 2003.
- San Francisco Public Utilities Commission, 2002. *The Electricity Resource Plan*. December 2002.
- Wollack and Bushnell, 1999. *Reliability Must-Run Contracts for the California Electricity Market*. April 2, 1999.

CHAPTER 2

ENVIRONMENTAL CHECKLIST AND DISCUSSION

The determination of whether a project may have a significant effect on the environment is a critical step in the CEQA process. Consistent with *CEQA Statutes Section 21083* (Significance Guidelines) and *CEQA Guidelines Section 15065* (Mandatory Findings of Significance), significance levels as provided in the checklist are generally defined as follows:

- *Potentially Significant Impact* applies where there is substantial evidence that an effect may be significant. The CEQA Guidelines define “significant effect” as “...a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant” (CEQA Guidelines, 15382).
- *Less than Significant with Mitigation Incorporated* applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The environmental document must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level.
- *Less Than Significant Impact* is a project impact that would not result in a significant change to the environment.
- *No Impact* applies where a project does not create an impact in that category. “No Impact” answers need to be adequately supported by information which shows that the impact simply does not apply to project.

Each of the following technical sections include a detailed discussion of the current environmental setting, regulatory considerations, impacts of the proposed project and, where appropriate, mitigation measures. The discussion and evaluation of the cumulative impacts of the proposed project is provided in Section 2.17 *Mandatory Findings of Significance*. The impact determinations are based on the criteria provided in the CEQA checklist, which is included in the beginning of each section. In the event specific additional considerations or details are required, or variations to the CEQA checklist are considered, this information is discussed under the related impact or mitigation presentations in each section.

2.1 AESTHETICS

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
AESTHETICS—Would the proposed project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

INTRODUCTION

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Depending on the extent to which a project's presence will alter the perceived visual character and quality of the environment, visual or aesthetic impacts may occur. The analysis of potential visual effects is based on review of a variety of data, including: project maps and drawings, aerial and ground level photographs of the project area, planning documents, and visual simulation of aboveground project elements proposed for Potrero and Hunters Point switchyards.

VISUAL CHARACTER

The proposed project lies on relatively flat terrain in an urbanized area in southeast San Francisco, devoted primarily to industrial and commercial uses with the exception of a residential building on Minnesota Street between 25th and 26th Streets. There are no designated scenic vistas in the proposed project area; an industrial and warehouse character dominates the Southern Waterfront area. Urban design elements that give the area a working industrial waterfront character include large maintenance and storage yards, warehouses, container cranes, railroad tracks, grain silos, and smoke stacks. The character of most open spaces in the area is one of industrial storage yards with maritime and cargo-related equipment and materials. Large-scale industrial facilities located near the proposed project route include container terminals, in addition to the Potrero and Hunters Point power plants, which are situated at the northern and southern ends of the project route, respectively. A summary of the visual character of project components is provided below:

Potrero Switchyard

The proposed project begins at the PG&E Potrero Switchyard, located on the east side of Illinois Street between 22nd Street and 23rd Street. A photograph of the switchyard taken from a representative public viewpoint is provided in **Figure 2.1-1a**. As shown in the photograph, the Switchyard and the vicinity encompass an industrial setting. A chain link fence borders the western side of the power plant site, separating the Switchyard from the adjacent sidewalk and street. The Switchyard occupies an approximately 6-acre site that includes frontage along Illinois Street and 22nd Street. Unobstructed views of the Switchyard can also be seen from the adjacent short block of 22nd Street; however, in this location, the street is unpaved and does not include sidewalks. Adjacent to the southwest is the Hunters Point Switchyard and Power Plant facility that includes a variety of industrial structures. Opposite the Switchyard are two multi-story office/warehouse buildings with loading docks that front Illinois Street.

Proposed Underground Cable Line Area

The proposed cable line would generally be installed underneath streets in an area devoted primarily to industrial and commercial uses. At several locations along the roads, ornamental landscaping has been planted along streets, industrial lots, and other facilities

Representative photos of the cable installation areas are presented in **Figures 2.1-1b** through **2.1-1i**. From the Potrero Switchyard, the route turns south on Illinois Street, which is characterized by warehouse/office and industrial sites. The proposed project route then turns west and follows 23rd Street for two blocks prior turning south at Tennessee Street. This area of the proposed project contains relatively flat terrain and supports primarily industrial and commercial uses. Wide-scale public views from land surrounding this area are limited due to urban development. The route continues along Tennessee Street and then goes west again on 25th Street, then turns south and continues on Minnesota Street until reaching Cesar Chavez Street, where it again turns west. Note that in **Figure 2.1-1d** there is a residential building in the upper left corner of the picture. This is one of the few residential buildings along the proposed project route. **Mitigation Measure LUP-1**, provided in Section 2.9 *Land Use*, has been proposed to move the proposed project route from Minnesota Street between 25th Street and Cesar Chavez in order to eliminate any project-related impacts to the residents. The proposed route continues west on Cesar Chavez for several blocks, passing an apartment building at Indiana Street. Caltrain and the Union Pacific rail corridors traverse Cesar Chavez Street, as do two elevated regional freeways, Interstate 280 (I-280) and Highway 101. The proposed project area does not include transportation corridors designated as a state scenic highway. To the southwest, Potrero Hill can be viewed, which rises to an elevation of more than 300 feet above sea level.

The proposed project then intersects property owned by the City, which has sparse ground cover consisting of shrubs and grass and a paved parking lot owned by the San Francisco Chronicle (see **Figure 2.1-1g**). The route turns west on Marin Street, then continues south-southeast along Evans Avenue.



Figure 2.1-1a: Potrero Switchyard from Illinois Street facing East



Figure 2.1-1b: 23rd Street facing West



Figure 2.1-1c: Corner of 23rd Street and Tennessee facing South



Figure 2.1-1d: Tennessee Street and 25th facing West



Figure 2.1-1e: Illinois Street facing South



Figure 2.1-1f: Minnesota Street and Caesar Chavez facing West



Figure 2.1-1g: Right of Way South of Mississippi Street
(San Francisco Chronicle property)



Figure 2.1-1h: Marin Street facing West



Figure 2.1-1i: Evans Avenue facing South



Figure 2.1-1j: Hunters Point Power Plant
(View from Evans Avenue and Jennings Street facing Southeast)



Figure 2.1-1k: Hunters Power Point Plant and Switchyard
facing Southeast



Figure 2.1-1l: West Point Road looking East



Figure 2.1-1m: West Point Road at Middle Point Road looking East



Figure 2.1-1n: Heron's Head Park Trail

Hunters Point Switchyard

The proposed cable line enters the Hunters Point Switchyard, which occupies a portion of the Power Plant, from Evans Avenue and there it terminates. As shown in the photos presented in **Figures 2.1-1k through 2.1-1n**, the Hunters Power Plant and Switchyard encompass an industrial setting. The facility includes a variety of industrial structures. A chain link fence borders the northern and western side of the power plant site, separating the switchyard from adjacent businesses and street traffic along Jennings Street and Evans Avenue. Access to the southern and eastern boundaries is limited by portions of the San Francisco Bay to the southeast and a chain link fence. There are ornamental shrubs situated approximately every 10 feet along Jennings Street and Evans Avenue, adjacent to the chain link fence.

REGULATORY CONTEXT

The Recreation and Open Space and the Urban Design Elements of the San Francisco General Plan, as well as the Central Waterfront Area Plan, the South Bayshore Area Plan, and the Port of San Francisco Waterfront Land Use Plan contain relevant visual and design policies. In addition, the City has approved improvement plans for Illinois Street.

SAN FRANCISCO GENERAL PLAN RECREATION AND OPEN SPACE ELEMENT

The Recreation and Open Space Element is composed of several sections that address certain aspects of the City's recreation and open space system. The sections are (1) The Regional Open Space System, (2) The Citywide Open Space System, (3) The Shoreline, (4) The Neighborhoods, and (5) Downtown. The following objective and policies are relevant to the proposed project.

Objective 3: Provide Continuous Public Open Space Along the Shoreline Unless Public Access Clearly Conflicts with Maritime Uses or Other Uses Requiring a Waterfront Location.

Policy: Preserve and enhance the natural shoreline where it exists;

Policy: Maintain visual access to the water from more distant inland areas by preserving view corridors and lowering the profile of buildings; and

Policy: Screen development from view from the shoreline if it will detract from the natural setting of the shoreline.

SAN FRANCISCO GENERAL PLAN URBAN DESIGN ELEMENT

The Urban Design Element concerns the physical character and order of the city development, the relationship between people and their environment, and preservation. It is a concerted effort to recognize the positive attributes of the city, to enhance and conserve those attributes, and to improve the living environment where it is less than satisfactory. The Urban Design Element contains the following pertinent policy.

- Policy 1.1: Recognize and protect major views in the City, with particular attention to those of open space and water.

CENTRAL WATERFRONT AREA PLAN

The purpose of the Central Waterfront Area Plan is to guide the future development of the Central Waterfront in a manner that serves the varying needs and interests of the City of San Francisco. The Plan establishes goals, objectives, and policies that provide direction for private and public investment in the area. In addition, the Plan calls for development that will meet the City's pressing economic and employment needs without sacrificing environmental quality. The Plan, which is part of the San Francisco Master Plan, contains the following pertinent policies.

Urban Design

- Policy 10.1: Reinforce the visual contrast between the waterfront and hills by limiting the height of structures near the shoreline. Relate the height and bulk of new structures away from the shoreline to the character of the topography and existing development.
- Policy 10.2: Protect and create views of the downtown skyline and the bay. Design and locate new development to minimize obstruction of existing views.

Central Basin Subarea

- Policy 18.1: Minimize blockage of private and public views and maintain, to the extent feasible, sightlines from Potrero Hill to the waterfront and downtown.

SOUTH BAYSHORE AREA PLAN

The South Bayshore Area Plan is a tool for residents and the City to guide the future development of the South Bayshore District of San Francisco. The Plan includes sections on Land Use, Transportation, Housing, Commerce, Industry, Recreation and Open Space, Urban Design, Community Facilities and Services, and Public Safety. The South Bayshore Area Plan includes the following pertinent policies.

- Policy 13.1: Assure that new development adjacent to the shoreline capitalizes on the unique waterfront location by improving visual and psychological access to the water in conformance with urban design policies.

PORT OF SAN FRANCISCO WATERFRONT LAND USE PLAN

The proposed project lies within the Southern Waterfront, an area that extends south from 18th Street to India Basin. The Port of San Francisco's Waterfront Land Use Plan envisions continued use of the Southern Waterfront as home to the Port's major cargo and ship repair operations. The Plan promotes both maximization of use of existing cargo facilities and expansion of cargo and maritime support uses on underutilized land within the area. The Port also recognizes that "the

Southern Waterfront's industrial areas are interspersed with natural habitat, habitat restoration, public access, and recreation sites that are identified and preserved." Warm Water Cove, located at the Bayside terminus of 24th Street, and the India Basin Shoreline Park, located south of the Hunters Point Switchyard, are among the identified public access sites. The Plan contains the following objectives for the Southern Waterfront area.

- Continue and expand cargo and ship repair operations
- Allow limited non-maritime uses to generate revenues
- Enhance wetlands, public access, and open space
- Restore Union Iron Works historic buildings

IMPACTS DISCUSSION OF AESTHETICS

METHODOLOGY AND SIGNIFICANCE CRITERIA

Analyses of the potential intensity of impacts to visual resources were derived from staff observations in the field. Visual simulations provided in PG&E's Proponent's Environmental Assessment (Essex Environmental, 2003) were also used to determine project impacts to visual resources. Compatibility with the design character of the project area is the main consideration during analysis of visual impacts. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

In applying these criteria to determine significance, a variety of factors were considered, including:

- the extent of project visibility from residential areas and public open space;
- the degree to which the various project elements will contrast with or be integrated into the existing landscape;
- the extent of change in the landscape's composition and character; and
- the number and sensitivity of viewers.

Project conformance with public policies regarding visual quality was also taken into account.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Consistency with Adopted Plans and Policies

The proposed project would not conflict with the San Francisco General Plan Recreation and Open Space Element, San Francisco General Plan Urban Design Element, Central Waterfront Area Plan, or South Bayshore Areas Plan policies on visual quality because it would not affect views of the water or shoreline. Similarly, because the proposed project is compatible with cargo and maritime support uses in the area and would not affect available public shoreline access, it would not conflict with the Port of San Francisco Waterfront Land Use Plan policies.

Project Construction

As discussed below, construction impacts would be less than significant and would not affect a scenic vista, damage scenic resources, nor substantially degrade the visual character or quality of the project area.

Potrero Switchyard

Construction-related impacts to visual quality would result from the presence of construction equipment, materials, and work crews at the Switchyard. The impacts to visual quality would be relatively short-term (approximately 9 months) and most noticeable to pedestrians and motorists traveling along the proposed project route. It is anticipated that switchyard-related construction effects would be somewhat less noticeable as compared to the proposed cable line (discussed below) mostly because the switchyard modifications would occur within an area that is currently occupied by existing facilities and where maintenance and repair equipment routinely operates.

Underground Cable Line Area

Areas where cable line construction would occur are shown in **Figure 1-1** in Section 1.0, *Project Description*. Urban development limits public views from land surrounding the area.

Construction-related impacts to visual quality would result from the presence of construction equipment, materials, and work crews along the proposed project route on public streets.

Although these effects would be relatively short-term, they would be most noticeable to motorists traveling within the proposed project area.

Hunters Point Switchyard

Construction-related impacts to the Hunters Point Switchyard would be the same as those discussed above for the Potrero Switchyard.

Project Operations

As discussed below, the public would not be able to see the underground cable line portion of the proposed cable line and therefore, it would not result in any permanent impacts to existing visual resources. The project proposes aboveground changes at the Potrero and Hunters Point Switchyards. As described below, these project components would be slightly visible and marginally noticeable to the public.

Potrero Switchyard

The aboveground components of the proposed project include areas within the existing Potrero Switchyard, which is fenced and would result in minor impacts to views, as discussed below.

The proposed modifications include a termination structure that would be approximately 16 feet tall; a transition structure (dead-end or H-frame) that would be approximately 45 feet tall by 40 feet wide; a breaker (bypass switch structure) that would be 40 feet wide, 50 feet tall, and 40 feet long; a coupling capacitive voltage transformer (CCVT) structure; and bus connections from the new cable line to the existing structures in the switchyard. All of these proposed modifications would occur within the existing footprint of the Switchyard. Typical drawings of

the structures to be added to the Hunters Point Switchyard are presented in **Figures 1-2 through 1-8** in Section 1.0, *Project Description*.

Figures 2.1-2a and 2.1-2b present existing conditions and simulated images to identify the location of proposed project components that would be visible at the Potrero Switchyard as could be seen from two Illinois Street vantage points. As shown in **Figures 2.1-2a and 2.1-2b**, project components would be seen behind the existing switchyard structures, chain link fence, and vegetation along the sidewalk.

From Illinois Street near 22nd Street looking south (**Figure 2.1-2a**), the visual simulation demonstrates that portions of the new termination, switch, and bus structures would be visible. The new facility components would appear within the context of an urban industrial setting, which includes the existing switchyard structures. As shown in **Figure 2.1b**, looking north, the simulation of the new switchyard elements would appear against the backdrop of the existing facility. In terms of scale and appearance, the new structures would be similar in aesthetic appearance to the existing switchyard facilities and would not be particularly noticeable.

It is anticipated that the proposed additional lighting at the site would represent a minor, incremental change in existing nighttime visual conditions in the project area that would not be noticeable to the public. Views of the project from more distant locations, including from the Potrero Hill residential area, would be screened by existing intervening buildings and vegetation. Therefore, visual resources impacts would be less than significant and would not affect a scenic vista, damage scenic resources, nor substantially degrade the visual character or quality of the area.

Underground Cable Line Project Area

The proposed 115 kV cable line would be placed underground and operation of the cable line would not result in any impacts to visual quality of the proposed project area.

Hunters Point Switchyard

Similar to the Potrero Switchyard, all proposed modifications at the Hunters Point Switchyard would be within the existing footprint of the fenced switchyard. Proposed modifications include an aboveground termination structure that would be approximately 16 feet tall; a transition structure (dead-end or H-frame) that would be approximately 45 feet tall by 40 feet wide (see **Figure 1-3** in Section 1.0, *Project Description*); a breaker (bypass switch structure) that would be 40 feet wide, 50 feet tall, and 40 feet long; a CCVT structure (see **Figure 1-6** in Section 1.0, *Project Description*); bus connections from the new cable line to the existing structures in the switchyard; and a new metal-roofed control building that would be approximately 16 feet wide, 48 feet long, and 10 feet tall (see **Figure 1-7** in Section 1.0, *Project Description*). The control building would be located north of Evans Avenue and immediately south of an existing 40-foot-tall water tank, some smaller tanks, and aboveground piping. New lighting proposed at the Hunters Point Switchyard includes two fixtures that would be mounted on the breaker switch and bus structure and a fixture on the control building. The fixtures would be mounted approximately 9 feet from the ground.



Existing southerly view from Illinois Street near 22nd Street



Visual simulation of proposed project

SOURCE: Essex Environmental (2003)

PG&E's Potrero to Hunters Point 115 kV Cable Project (A.03-12-039) / 204039 ■

Figure 2.1-2a
Existing and Simulated View of Potrero Switchyard
(Southerly View)



Existing northerly view from Illinois Street between 22nd and 23rd Streets



Visual simulation of proposed project

SOURCE: Essex Environmental (2003)

PG&E's Potrero to Hunters Point 115 kV Cable Project (A.03-12-039) / 204039 ■

Figure 2.1-2b

Existing and Simulated View of Potrero Switchyard
(Northerly View)

When seen from many of the potentially affected locations, including Evans Avenue, the India Basin Shoreline Park, and the Fitch Street public open space, views of the proposed structures would generally be screened by existing power plant and switchyard facilities. Views of the proposed project from the hillside residential area near West Point Road would largely be screened by a combination of intervening vegetation and existing power plant and switchyard facilities. Even though a small portion of the project may be visible from limited areas of the Bayview residential area, the new structures would blend with the character of the existing switchyard. Views of the project from the Heron's Head Park trail would be generally screened by the power plant.

A small portion of the control building may be visible from a limited area along the Heron's Head Park trail. From the trail, the existing water tank would partially obstruct views of the new building. Where visible, the new structures seen from the Bayview residential area and from the Heron's Head Park trail would appear within the context of an industrial setting. Given the amount of intervening screening and because the new structures would be comparable in scale and aesthetic appearance to the existing switchyard facilities, the proposed Hunters Point Switchyard modifications would be minimally noticeable. Similarly, it is anticipated that the additional lighting at the site would represent a minor, incremental change in nighttime visual conditions that would not be noticeable to the public and would not affect day or nighttime views. These visual impacts would not affect a scenic vista, damage scenic resources, nor substantially degrade the visual character or quality of the area.

CHECKLIST IMPACT CONCLUSIONS

- a) The proposed project would not have an adverse effect on scenic vistas.
- b) The proposed project would not result in any significant impacts to scenic resources.
- c) The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings.
- d) The proposed project would create new light sources in the switchyards; however, the additional lighting would have less than a significant impact on day or nighttime views in the project area.

REFERENCES – Aesthetics

- Essex Environmental, 2003. *PG&E Potrero to Hunters Point 115 kV Cable Project Proponent's Environmental Assessment*. December 2003.
- Pacific Gas and Electric Company, 2003. Various project plans and drawings for Potrero and Hunters Point Switchyards.
- Port of San Francisco, 1996. *Port of San Francisco Waterfront Land Use Plan*.
- City of San Francisco, 1996. *City of San Francisco General Plan*.

2.2 AGRICULTURAL RESOURCES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
AGRICULTURE RESOURCES				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.				
Would the proposed project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

PROJECT AREA SETTING

The proposed project is almost entirely located within an area largely created by landfill from past industrial land uses and debris fill associated with the 1906 earthquake and Bay reclamation. Agricultural use is not characteristic of the area; the project area is largely developed and devoted primarily to maritime and industrial uses.

AGENCY AGRICULTURAL DESIGNATIONS

The project area is not within a California Department of Conservation Farmland Mapping and Monitoring survey area. In addition, the project site is not subject to the Williamson Act or the California Conservation Act of 1965, which provides a reduction in property taxes in return for agreeing to protect open space or agricultural values.

REGULATORY CONTEXT

CALIFORNIA DEPARTMENT OF CONSERVATION FARMLAND MAPPING AND MONITORING PROGRAM

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 in response to a critical need for assessing the location, quality, and quantity of agricultural lands and conversion of these lands over time. FMMP is a non-regulatory program and provides a consistent and impartial analysis of agricultural land use and land use changes throughout California (California Department of Conservation, 2004a).

WILLIAMSON ACT

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971 (California Department of Conservation, 2004b).

IMPACTS DISCUSSION OF AGRICULTURAL RESOURCES

METODOLOGY AND SIGNIFICANCE CRITERIA

The methodology to determine impacts considered existing or proposed land use plans and policies in the project area, which were reviewed to determine potential impacts to agricultural resources. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The proposed project area is in an area characterized by maritime and industrial uses. The proposed project area is not located on or near lands that are considered to be farmland by state, regional, or local agencies. Therefore, construction and operation of the proposed 115 kV cable line would not result in uses inconsistent or detrimental to existing or future agricultural activities in the area nor would it promote or accelerate the conversion of existing agricultural lands to non-agricultural uses.

CHECKLIST IMPACT CONCLUSIONS

- a) The proposed project is located almost exclusively within paved City streets. The project area is not located on prime farmland, unique farmland, or farmland of statewide

importance. Therefore, the proposed project would not result in the conversion of any of these lands to non-agricultural use.

- b) The proposed project area is not located on land zoned for agricultural use or any Williamson Act contract parcels; therefore, no conflict is present.
- c) Because no agricultural land or uses are within the proximity of the proposed project area, the proposed project would not result in the conversion of farmland to non-agricultural uses.

REFERENCES – Agricultural Resources

California Department of Conservation, 2004a. Division of Land Resource Protection, Farmland Mapping and Monitoring Program. <http://www.consrv.ca.gov/DLRP/fmmp/> accessed June 16, 2004.

California Department of Conservation, 2004b. Division of Land Resource Protection, Williamson Act Program. <http://www.consrv.ca.gov/DLRP/lca/> accessed June 16, 2004.

2.3 AIR QUALITY

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
AIR QUALITY —Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the proposed project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

INTRODUCTION

The primary factors that determine air quality are the location of air pollutant sources and the amount of pollutants emitted. However, meteorological and topographical conditions are also important factors.

The proposed project lies completely within San Francisco. Since most of San Francisco's topography is below 200 feet, marine air is able to easily flow across most of the city, making its climate cool and windy. Pollutant emissions in San Francisco are high, especially from motor vehicle congestion. Localized pollutants, such as carbon monoxide, can build up in "urban canyons"; although the winds in San Francisco are generally strong enough to carry the pollutants away from the city before they can accumulate (BAAQMD, 1998).

The proposed project area is primarily used for commercial and industrial activities. There are some residential neighborhoods in close proximity to the proposed project area, particularly to the south. Existing emission sources within the vicinity of the proposed project include stationary sources, such as the Potrero and Hunters Point Power Plants, as well as mobile sources. The smaller stationary sources in the area, such as paint shops and small boilers, emit quantities of emissions that are substantially less than the mobile sources and the power plants. Mobile

sources include autos and trucks traveling on Interstate 280, located west of the project site, and autos and trucks traveling on nearby Third Street as well as other local streets.

The Bay Area has relatively good air quality despite its extensive urbanized area, vehicles, and industrial sources. The Bay Area's coastal location and favorable meteorology help to keep its pollution levels low most of the time. Winds within San Francisco display several characteristic regimes with winds generally flowing from the west, although often greatly influenced by local topographic features. In the proposed project area, winds generally blow out of the west-southwest, west, and west-northwest. Wind data collected within the vicinity of the proposed project indicates that winds blowing from the south, clockwise through northwest, account for approximately 67 percent of all winds observed in the proposed project area. Average wind speeds in the area are approximately eight miles per hour (NOAA, 2004).

CRITERIA POLLUTANTS

Regulation of criteria pollutants is achieved through both national and state ambient air quality standards and emissions limits for individual sources of air pollutants. Criteria air pollutants include ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), suspended particulate matter (PM₁₀ and PM_{2.5}), and lead. The proposed project is located within the San Francisco Bay Area Air Basin (Basin). The Basin covers all or part of the nine counties in the San Francisco Bay region and the airshed has been designated by the California Air Resources Board (CARB) as nonattainment for the Federal and State ambient air ozone standards, as well as nonattainment of the state PM₁₀ standard. The Basin is "attainment" or "unclassified" for the other criteria air pollutants (BAAQMD, 2003). **Table 2.3-1** provides the California and the Federal air quality standards and attainment status.

As shown in **Table 2.3-2**, in San Francisco County, state and federal AAQS for PM₁₀ and PM_{2.5} have been exceeded in the Basin. Between 1999 and 2003, the maximum 24-hour PM_{2.5} concentration within San Francisco County was 77 µg/m³. This level was reached in 2001, as shown in **Table 2.3-2**. The maximum 24-hour PM₁₀ concentration for the same period was 78 µg/m³. This level was reached in 1999, as shown in **Table 2.3-2**. The federal 24-hour PM_{2.5} and PM₁₀ air quality standards were not exceeded in San Francisco County during this period. Existing and probable future levels of air quality in the project vicinity with respect to ozone, CO, PM₁₀, and PM_{2.5}, which are the pollutants of most concern, can be generally inferred from ambient air quality measurements conducted by BAAQMD at the following two monitoring stations: the Arkansas Street station located at 16th and Arkansas Streets measures CO, O₃, NO₂, SO₂, PM₁₀, and PM_{2.5}, and the station located at 939 Ellis Street between Van Ness and Franklin Streets measures carbon monoxide (BAAQMD, 2004).

TOXIC AIR CONTAMINANTS

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern in California. There are many different types of TACs with varying degrees of toxicity. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset conditions. Health

**TABLE 2.3-1
BAY AREA AIR QUALITY MANAGEMENT DISTRICT ATTAINMENT STATUS**

Pollutant	Averaging Time	State ^a	National ^b	Attainment Status ^d
Ozone	1 hour 8 hour	0.09 ppm ^c NA ^d	0.12 ppm 0.08 ppm	N U
Carbon Monoxide	1 hour 8 hour	20 ppm 9 ppm	35 ppm 9 ppm	A A
Nitrogen Dioxide	1 hour Annual	0.25 ppm NA	NA 80 µg/m ³ c	A A
Sulfur Dioxide	1 hour 24 hour	0.25 ppm 0.04 ppm	NA 0.14 ppm	A A
Particulate Matter (PM _{2.5})	24 hour Annual Arithmetic Mean	NA 12 µg/m ³	65 µg/m ³ 15 µg/m ³	U U
Particulate Matter (PM ₁₀)	24 hour Annual Arithmetic Mean	50 µg/m ³ 20 µg/m ³	150 µg/m ³ 50 µg/m ³	N/U A
Sulfates	24 hour	25 µg/m ³	NA	A
Lead	30 day	1.5 µg/m ³	NA	A
Hydrogen Sulfide	1 hour	0.03 ppm	NA	A
Vinyl Chloride (chloroethene)	24 hour	0.01 ppm	NA	A
Visibility Reducing Particles	8 hour	see note ^e	see note ^f	NA

^a California standards for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM₁₀, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded.

^b National standards other than for ozone, particulates and those based on annual averages, are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations are 0.08 ppm or less.

^c ppm = parts per million by volume; µg/m³ = micrograms per cubic meter.

^d A=Attainment; N=Nonattainment; U=Unclassified; NA = Not Applicable.

^e Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

^f USEPA encourages state and tribal communities to participate in regional planning organizations to address visibility.

SOURCE: BAAQMD (2003)

TABLE 2.3-2
AIR POLLUTANT SUMMARY FOR THE PROPOSED PROJECT AREA, 1999–2003

Pollutant	Concentrations, by Year ^a					
	Std. ^b	1999	2000	2001	2002	2003
<u><i>Ozone:</i></u>						
Highest 1-hour-average concentration, ppm ^c	.09	.08	.06	.08	.05	.085
Number of violations ^d		0	0	0	0	0
Highest 8-hour-average concentration, ppm ^c	.08	.05	.04	.05	.05	.06
Number of violations		0	0	0	0	0
<u><i>Carbon Monoxide:</i></u>						
Highest 1-hour-average concentration, ppm	20	5.4	5.5	4.0	3.5	3.6
Number of violations		0	0	0	0	0
Highest 8-hour-average concentration, ppm	9.0	3.7	3.2	3.3	2.6	2.8
Number of violations		0	0	0	0	0
<u><i>Suspended Particulate (PM2.5):</i></u>						
Highest 24-hour-average concentration, µg/m ³ ^c	65	71	48	77	70	42
Violations/Samples ^e (days per year)		3	0	5	4	0
Annual Geometric Mean, µg/m ³	12	12.6	11.4	11.5	13.1	10.1
<u><i>Suspended Particulate (PM10):</i></u>						
Highest 24-hour-average concentration, µg/m ³	50	78	63	67	74	51
Violations/Samples ^e (days per year)		6	2	7	2	1
Annual Geometric Mean, µg/m ³	20	26	24	26	25	22

^a Monitoring was collected from the Arkansas Street station located at 10 Arkansas Street close to 16th Street in San Francisco.

^b State standard not to be exceeded.

^c ppm: parts per million; µg/m³: micrograms per cubic meter.

^d For ozone, “number of violations” refers to the number of days in a given year during which standards were exceeded.

^e Indicates the number of violations and the number of samples taken in a given year.

NOTE: **Bold** values are in excess of applicable standard. NA = Not Available.

SOURCES: BAAQMD (1999, 2000, 2001, 2002); USEPA (2003)

effects of TACs include cancer, birth defects, neurological damage, and death. TAC emissions are controlled through federal, state, and local programs. Federally, TACs are regulated by the EPA under Title III of the federal Clean Air Act (CAA). At the state level, CARB has designated the federal hazardous air pollutants as TACs, under the authority of Assembly Bill (AB) 1807. Diesel exhaust is a growing concern in the Basin area and throughout California. In 1998, CARB identified diesel engine particulate matter as a TAC. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Diesel

engine particulate matter has been identified as a human carcinogen. Mobile sources (including trucks, buses, automobiles, trains, ships, and farm equipment) are by far the largest source of diesel emissions. Studies show that diesel particulate matter concentrations are much higher near heavily-traveled highways and intersections.

For the most part, emissions of TACs have declined substantially since 1997. For example, benzene levels declined substantially in 1996 with the advent of Phase 2 reformulated gasoline. Due largely to the observed reductions in benzene and 1,3-butadiene levels, the average cancer risk in the Bay Area from ambient levels of TACs has declined throughout the 1990s. BAAQMD operates a regional monitoring network that collects ambient concentration data on some of the more pervasive TACs. **Table 2.3-3** contains the mean concentrations of selected toxic pollutants monitored at the Arkansas Street station.

TABLE 2.3-3
ARKANSAS STREET STATION TOXIC AIR POLLUTANT MEASUREMENTS

Parameter	Mean Concentration Per Year ^a (part per billion - ppb)				
	1999	2000	2001	2002	2003
Benzene	4.108	2.897	2.294	3.195	2.265
1,3-Butadiene	.669	.495	.452	.638	.33
Carbon tetrachloride	.062	.065	.053	.089	.094
Chloroform	.053	.052	.05	.032	.035
Formaldehyde	1.45	1.61	1.57	1.97	1.63
Acetaldehyde	.97	1.36	1.15	1.08	1.29
1,4-dichlorobenzene	-	.669	.785	.9	.9
Ethyl benzene	2.667	2.4	1.45	1.41	1.45
Methyl chloroform	.131	.115	.057	.083	.068
Methyl ethyl ketone	.67	.71	.66	.6	.47
Styrene	.65	.44	.424	.445	.431
Toluene	11.113	10.033	7.7	11.064	8.603
Trichloroethylene	.056	.056	.05	.034	.025
Methyl tertiary-butyl ether	6.52	5.22	2.83	4.78	1.23

^a Monitoring was collected from the Arkansas Street station located at 10 Arkansas Street close to 16th Street in San Francisco.

SOURCE: U.S. EPA (2004)

Diesel particulate matter consists of more than one compound, making monitoring more difficult than for single TACs. However, based on a limited amount of data, CARB has estimated the statewide, ambient, “population-weighted,” cancer risk due to essentially all TACs, based on year 2000 emissions, at 758 in 1 million, of which 540 in 1 million, or about 70 percent, is estimated to be due to diesel particulate (CARB, 2000). That is, the average individual in the state of California has a 0.8 in 1,000 chance – beyond the risk from other sources, including hereditary factors and exposure to other substances – of developing cancer due to TACs in the

ambient air. The average risk in the Bay Area is less than the statewide “population-weighted” average since the latter is influenced heavily by the large numbers of people living in the Los Angeles metropolitan area. The average risk from ambient TACs is approximately 30 percent less in the Bay Area than in the South Coast Air Basin (i.e., the Los Angeles metropolitan area) and approximately 17 percent less in the Bay Area than that calculated for the statewide “population-weighted” average (CARB, 1998).

Hazardous materials, such as volatile organic compounds, may be located in the soils and fill materials within the project area and could become airborne during construction activities. Asbestos, which is also a regulated toxic substance, could occur naturally within deposits of ultramafic rock and serpentine rocks in the project area. These materials could be inhaled if the area is disturbed and exposure to such materials can cause health problems. Asbestos, for example, can result in asbestosis (scarring of the lung tissue) and certain types of cancer. The Occupational Safety and Health Administration (OSHA) established the first federal regulation governing occupational exposure to asbestos in 1971. Since then, the U.S. Environmental Protection Agency (U.S. EPA) and OSHA have promulgated rules and updated regulations designed to limit the release of asbestos into the atmosphere, reduce worker exposures to asbestos, regulate the disposal of asbestos, and ensure asbestos hazard response actions are carried out by qualified and trained personnel.

California OSHA (CAL-OSHA) and BAAQMD have established asbestos requirements that augment and extend the federal requirements. The Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations was promulgated by BAAQMD in 2002. This regulation generally requires notification of BAAQMD prior to specific construction activities, such as grading operations, when the activity occurs in areas where ultramafic and serpentine rocks or naturally-occurring asbestos may be found. BAAQMD regulations require that construction operations use dust control measures and prevent visible emissions crossing the project boundaries. For construction and grading projects that will disturb one acre or less, the regulation requires several specific actions to minimize emissions of dust such as vehicle speed limitations, application of water prior to and during the ground disturbance, keeping storage piles wet or covered, and track-out prevention and removal. Construction projects that will disturb more than one acre must prepare and obtain BAAQMD approval for an asbestos dust mitigation plan. The plan must specify how the operation will minimize emissions and must address specific emission sources. Regardless of the size of the disturbance, activities must not result in emissions that are visible crossing the property line.

Records related to the applicability of the regulation or compliance with the specific provisions of the regulation or the asbestos dust mitigation plan must be kept for seven years. The results of any air monitoring or bulk sampling required by BAAQMD, any bulk sampling to document the applicability of, or compliance with, the regulation, and any other records specified in the dust mitigation plan must be reported to BAAQMD.

An exemption can be granted by BAAQMD if a geological evaluation demonstrates that ultramafic or serpentine rock is not likely to be found. Removal of any asbestos containing materials must be performed in accordance with the California Code of Regulations, Title 8,

Section 1529.

If structures containing asbestos are disturbed and the material becomes friable, removal of friable materials with a concentration of one percent or greater and at a quantity of 160 square feet or 260 linear feet or greater would require notification to the Regional EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) office and BAAQMD. Removal of these materials would also require engineering controls. Disposal of asbestos and asbestos-containing material must be performed by a certified solid waste facility.

Sensitive Receptors

Sensitive populations (i.e., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) in proximity to localized sources of toxics and criteria pollutants are of particular concern. Land uses where sensitive receptors are typically found include residences, schools, playgrounds childcare centers, parks, hospitals, clinics, rehabilitation centers, convalescent homes, and retirement homes. The closest sensitive receptor identified is the residential development on 25th Street, Minnesota Street, and Cesar Chavez Street. **Mitigation Measure LUP-1**, provided in Section 2.9 *Land Use*, has been proposed to move the proposed project route from Minnesota Street between 25th Street and Cesar Chavez in order to eliminate any project-related impacts to the residents.

REGULATORY CONTEXT

U.S. ENVIRONMENTAL PROTECTION AGENCY / CALIFORNIA AIR RESOURCES BOARD / BAY AREA AIR QUALITY MANAGEMENT DISTRICT

U.S. EPA is responsible for implementing the myriad of programs established under the CAA which include establishing and reviewing the National Ambient Air Quality Standards (NAAQS) and judging the adequacy of State Implementation Plans (SIP), but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented. CARB, the State's air quality management agency, is responsible for establishing and reviewing the state ambient air quality standards, compiling the California SIP and securing approval of that plan from U.S. EPA, and identifying toxic air contaminants. CARB also oversees the activities of air quality management districts, which are organized at the county or regional level. As a general matter, U.S. EPA and CARB regulate emissions from mobile sources (e.g., vehicles and trains) and the air districts (e.g., the BAAQMD) regulate emissions from stationary sources associated with industrial and commercial activities.

CLEAN AIR ACT

Under the federal CAA Amendments of 1990, federal agencies must make a determination of conformity with the SIP before taking any action on a project. Conformity with the SIP is defined in the CAA Amendment as meaning conformity with a SIP's purpose of eliminating or

reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. The General Conformity Rule (40 CFR 93.150) applies to general projects in areas designated “non-attainment” or “maintenance” and covers direct and indirect emissions of criteria air pollutants or their precursors that are caused by a federal action, are reasonably foreseeable, and can practicably be controlled by the federal agency through its continuing program responsibility. However, the requirements of the General Conformity Rule do not apply if the federal action would result in a *de minimis* increase in emissions. Within the Bay Area Air Basin, these *de minimis* thresholds are 100 tons per year of O₃ precursors (ROG and NO_x) and CO, equivalent to 548 pounds per day.

IMPACTS DISCUSSION OF AIR QUALITY

METHODOLOGY AND SIGNIFICANCE CRITERIA

The methodology of analysis to determine the potential impacts to air quality included a review of ambient monitoring data derived from the project area. To support the analysis, air emissions from construction activities were derived from PG&E’s Preliminary Environmental Assessment (Essex Environmental, 2003). Standards of significance were derived from CEQA Guidelines Appendix G. Impacts to air quality are considered significant if the project would:

- conflict with an applicable air quality plan;
- violate any AAQS;
- substantially contribute to an existing or project-related air quality violation;
- expose sensitive receptors to a substantial pollutant concentration; or
- create objectionable odors that would affect a substantial number of people.

Sensitive air quality receptors are defined as facilities or land uses that include people who are particularly susceptible to the effects of air pollution, including children, the elderly, and people with illnesses. Schools, hospitals, and residential areas are all examples of sensitive receptors.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact AQ-1: Construction and demolition activities associated with facility construction would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions. This would be a less than significant impact with implementation of Mitigation Measures AQ-1. Additionally, Mitigation Measure LUP-1, provided in Section 2.9 *Land Use*, shall be implemented to minimize impacts to sensitive receptors.

Construction activities for all proposed project components could require initial clearing and grading at each site to accommodate excavation and staging activities. The types of construction equipment used, as well as the extent of the excavation and construction disturbance zone for each component would vary between locations and type of activity. Truck deliveries would be based on the type and intensity of activity at each site, as well as the amount of equipment and exported/imported material required.

Construction conducted for the project could generate fugitive dust. Fugitive dust emissions would vary from day to day depending upon the level and type of activity, silt content of the soil, and the prevailing weather. Primary sources of fugitive dust during construction would include excavation, earth movement, grading, and wind erosion from exposed surfaces. Larger-diameter dust particles (i.e., greater than 30 microns) generally fall out of the atmosphere within several hundred feet of construction sites, and represent more of a soiling nuisance than a health hazard. But, the smaller-diameter particles (e.g., PM₁₀), which generally remain airborne until removed from the atmosphere by moisture, are associated with adverse health effects.

The primary air pollutant from cable and switchyard construction activities is PM₁₀ emissions from construction equipment and ground disturbance. In addition to PM₁₀, there are pollutants associated with construction equipment usage and vehicular emissions from transporting workers, equipment, and supplies. The estimated construction emissions for cable installation and switchyard modifications are shown in **Table 2.3-4** and **Table 2.3-5**. BAAQMD does not provide significance thresholds for construction activities, but provides mitigation measures which if implemented, air quality impacts are considered insignificant. BAAQMD's permit authority does not extend to general land use development nor does it extend to operation of on-road motor vehicles (autos, trucks, and buses). Implementation of **Mitigation Measure AQ-1** could further reduce temporary air emissions from project construction. With the implementation of BAAQMD mitigation measures, air quality impacts from construction would be considered less than significant.

Mitigation Measure AQ-1: The following measures provided by BAAQMD shall be implemented to ensure that construction impacts are less than significant:

- **Construction areas, unpaved access roads, and staging areas shall be watered at least twice daily during dry weather, or soil stabilizers shall be applied during active work.**
- **Trucks hauling soil and other loose material shall either be covered, have at least two feet of freeboard, or be sprayed with water prior to arriving and departing from the construction site.**
- **Construction vehicles shall use paved roads to access the construction site wherever possible.**
- **Vehicle speeds shall be limited to 15 mph or less on unpaved roads and construction areas.**
- **Paved access roads, parking areas, and staging areas at construction sites and streets shall be cleaned daily with water sweepers if excessive soil material is carried onto adjacent public streets.**
- **Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).**

**TABLE 2.3-4
CONSTRUCTION EMISSIONS ESTIMATES FOR 115 kV CABLE LINE**

Activity and Equipment		Emissions (pounds per day)				
Type	Number	ROG	CO	NO _x (as NO ₂)	SO ₂	PM ₁₀
<i>Material Delivery and Setup</i>						
Pickup truck	2	0.16	3.28	0.84	0.00	0.00
Rigging truck	1	0.30	4.62	0.54	0.00	0.00
Mechanic's truck	1	0.14	1.69	0.17	0.00	0.00
Small mobile crane	1	1.52	14.32	33.36	3.63	2.05
Shop van	2	0.59	9.24	1.08	0.00	0.00
2-ton flat bed truck	1	1.52	14.32	33.36	3.63	2.05
<i>Excavation and Construction</i>						
Crawler backhoe	1	1.52	28.72	10.16	2.79	1.25
Cement truck	2	3.42	32.22	75.06	8.17	4.61
Dump truck	2	3.42	32.22	75.06	8.17	4.61
Mobile crane	1	4.98	136.00	3.37	0.11	0.45
Transport truck	1	0.14	1.36	0.17	0.00	0.00
<i>Wire Installation</i>						
Cable puller truck	1	1.52	28.72	10.16	2.79	1.25
Wench truck	1	1.52	28.72	10.16	2.79	1.25
Tank truck	2	3.04	28.64	66.72	7.26	4.10
Mobile crane	1	4.89	136.00	3.37	0.11	0.45
<i>Single-Circuit Duct Bank</i>						
Fugitive dust from wire installation	—	0.00	0.00	0.00	0.00	56.90
Line Activity Totals (pounds/day)	—	28.68	500.07	323.58	39.45	76.90
Line Activity Totals (tons/day)	—	0.014	0.248	0.161	0.020	0.038

ROG: Reactive organic gas

CO: Carbon monoxide

NO₂: Nitrogen dioxide

SO₂: Sulfur dioxide

PM₁₀: Particulate matter less than 10 microns

SOURCE: Essex Environmental (2003)

**TABLE 2.3-5
CONSTRUCTION EMISSION ESTIMATES FOR SWITCHYARD CONSTRUCTION**

Activity and Equipment		Emissions (pounds per day)				
Type	Number	ROG	CO	NO _x (as NO ₂)	SO ₂	PM ₁₀
General Construction						
Rigging truck	1	0.30	4.62	0.54	0.00	0.00
Mechanic truck	1	0.14	1.69	0.17	0.00	0.00
Structure Foundation Excavation						
3/4-ton pickup truck	1	0.30	4.62	0.54	0.00	0.00
1-ton truck	1	1.52	14.31	33.36	3.63	2.05
Truck mounted digger	1	1.20	5.28	13.52	1.30	1.11
Crawler backhoe	1	1.52	28.72	10.16	2.74	1.25
Concrete truck	1	1.52	28.72	10.16	2.74	1.25
Structure Delivery and Setup						
3/4-ton pickup truck	2	0.59	9.24	1.08	0.00	0.00
Boom truck	1	4.98	136.00	3.38	0.19	0.45
Mobile crane	1	4.98	136.00	3.38	0.19	0.45
Wire Installation						
1-ton truck	1	3.04	28.64	66.72	7.26	4.10
3/4-ton pickup truck	1	0.30	4.62	0.54	0.00	0.00
Cleanup and Landscaping						
2-ton flat bed truck	1	1.52	14.31	33.36	3.63	2.05
3/4-ton pickup truck	1	0.30	4.62	0.54	0.00	0.00
1-ton truck	1	1.52	14.32	33.36	3.63	2.05
D-3 bulldozer	1	1.52	14.32	33.36	2.78	1.32
Substation						
Fugitive dust from excavation and construction	—	0.00	0.00	0.00	0.00	12.75
Construction total (pounds per day)	—	25.25	450.03	244.17	28.09	28.83
Construction total (tons per year)	—	0.013	0.225	0.122	0.014	0.014

ROG: Reactive organic gas

CO: Carbon monoxide

NO₂: Nitrogen dioxide

SO₂: Sulfur dioxide

PM₁₀: Particulate matter less than 10 microns

SOURCE: Essex Environmental (2003)

- A carpooling strategy shall be implemented for construction workers prior to commencing construction (during construction worker orientation and training). This strategy shall be submitted to and approved by the CPUC prior to commencement of project construction.
- Vehicles used for construction activities shall be tuned per the manufacturers' recommended maintenance schedule, if reasonably available.
- Vehicle idling time shall be minimized to 10 minutes whenever possible.

The following control measures shall also be implemented because the construction site is greater than four acres in area and/or located near sensitive receptors:

- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible after project completion, taking into account optimal season and survival rates.
- Suspend excavation and grading activity when dust control mitigation measures become ineffective due to excessive winds.
- Designate a person or persons to monitor the dust control program and order increased watering, as necessary, to prevent transport of dust offsite. The name and telephone number of such persons shall be provided to the BAAQMD prior to the start of construction.

The CPUC mitigation monitor shall oversee compliance with all of the above measures during construction.

Project Operations

Operation of the proposed project 115 kV cable line would not result in any air emissions. Vehicular emissions associated with maintenance and repair of the project components would be the only sources of emissions during the operational phase. As shown in **Table 2.3-6**, using an estimated total of 1,000 vehicle miles per month (both light-duty and heavy-duty trucks) for maintenance and repairs, the total emissions during the operational phase would be considerably below BAAQMD thresholds of significant contribution of 80 pounds per day maximum for Reactive Organic Gas (ROG)¹, NO_x, and PM₁₀ (BAAQMD, 1999b).

As discussed in Section 1.0 *Project Description*, the Potrero to Hunters Point 115 kV Cable Project would provide necessary internal transmission network reinforcements to the electrical transmission system serving the City in order to improve reliability, better serve load, and provide

¹ ROG is not a criteria pollutant, but is an important precursor to the formation of ozone. ROG combines with sunlight and oxygen to create ozone, which is a problem in the BAAQMD and in most areas of California.

**TABLE 2.3-6
OPERATIONS EMISSIONS ESTIMATES**

Equipment	Emissions (pounds per day)				
	ROG	CO	NO ₂	SO ₂	PM ₁₀
<i>Equipment</i>					
Light-duty truck (800 miles per month)	0.08	1.64	0.42	0.00	0.00
Heavy-duty truck (200 miles per month)	0.04	0.62	0.08	0.28	0.16
<i>Switching Station and Powerline</i>					
Operation totals (pounds per day)	0.12	2.26	0.50	0.28	0.16
Operations totals (tons per day)	0.00006	0.00114	0.00026	0.00014	0.00008

ROG: Reactive organic gas

CO: Carbon monoxide

NO₂: Nitrogen dioxide

SO₂: Sulfur dioxide

PM₁₀: Particulate matter less than 10 microns

SOURCES: EPA (1985a); EPA (1985b); Essex Environmental (2003)

a component needed to meet the goal of closing PG&E's Hunters Point Power Plant.² Though not directly related to the proposed project, the result would be a decrease in air emissions in the project area.

Impact AQ-2: Project construction could result in the release of toxic air contaminant (TAC) emissions during disturbance of contaminated soils and/or serpentine rocks. This would be a less than significant impact with implementation of Mitigation Measures AQ-1 and AQ-2. Additionally, Mitigation Measure LUP-1, provided in Section 2.9 *Land Use*, shall be implemented to minimize impacts to sensitive receptors.

Hazardous materials, such as volatile organic compounds, may be located in the soils and fill materials within the project area and become airborne during construction activities. Asbestos, which is also a regulated toxic substance, could occur naturally within deposits of ultramafic rock and serpentine rocks in the project area. These materials could be inhaled if the area is disturbed and exposure to such materials can cause health problems.

² In 1998, the City and County of San Francisco and PG&E entered into an agreement to "permanently shut down the Hunters Point Power Plant as soon as the facility is no longer need to sustain electric reliability in San Francisco and the surrounding area and the Federal Energy Regulatory Commission (FERC) has authorized PG&E to terminate PG&E's Reliability Must Run Contract for the facility." Decision (D.) 04-08-046. The CPUC approved that settlement in (D.) 98-10-029.

Mitigation Measure AQ-2: In addition to implementation of Mitigation Measure AQ-1, the following measures prescribed by BAAQMD shall be implemented to ensure that TAC emissions from construction activities would be less than significant:

- Notification to BAAQMD of construction activities, such as grading operations, when the activity occurs in areas where ultramafic and serpentine rock or naturally-occurring asbestos may be found, shall be required.
- Ensure that construction operations do not result in visible emissions crossing the project boundaries in areas where hazardous waste or serpentine rocks exist.
- Construction projects that will disturb less than one acre of asbestos containing material, as defined by the California Code of Regulations, Title 17, Section 93000, shall comply with all applicable BAAQMD regulatory requirements
- Construction projects that will disturb more than one acre of asbestos containing material, as defined under California Code of Regulations, Title 17, Section 93000, shall prepare and obtain BAAQMD approval for an asbestos dust mitigation plan. The plan shall specify how the operation will minimize emissions and must address specific emission sources.
- Removal of any asbestos containing materials shall be performed in accordance with the California Code of Regulations, Title 8, Section 1529, which regulates the management and removal of asbestos containing materials. by a CAL-OSHA certified, licensed asbestos abatement contractor.
- If structures are disturbed containing asbestos and the material becomes friable, removal of friable materials with a concentration of one percent or greater and at a quantity of 160 square feet or 260 linear feet or greater shall require notification to the Regional EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) office and BAAQMD.
- All handling and disposal of hazardous materials and waste shall be done in compliance with applicable regulatory requirements including, but not limited to, those administered by U.S. EPA, BAAQMD, Department of Toxic Substances Control (DTSC), San Francisco RWQCB, and Cal-OSHA.
- Implementation of Mitigation Measure HAZ-1b in the *Hazards* section.

CHECKLIST IMPACT CONCLUSIONS

- a) Since all air pollution emission sources would be operated within permitted limits, the proposed project would not conflict with or obstruct the implementation of air quality plans in the BAAQMD.
- b) The proposed project would not violate any air quality standard or contribute to an existing or projected air quality violation.
- c) During construction of the proposed 115 kV cable line, there would be a temporary increase in the following criteria pollutant emissions:

- PM₁₀ from fugitive dust emissions during clearing, boring, and trenching operations
- Exhaust emissions from construction equipment, including the criteria pollutants carbon monoxide, sulfur dioxide, nitrogen oxides and PM₁₀.

The short-term air quality impacts from construction activities would be less than significant with implementation of **Mitigation Measure AQ-1**.

Project operations would not result in a significant cumulatively considerable increase of any criteria pollutant emission for which the region is in nonattainment.

- d) Emissions from construction activities would cause increases in ambient air particulate matter concentrations at sensitive receptors near the proposed 115 kV cable route. Construction dust is composed primarily of large particles that settle out of the atmosphere with increasing distance from the source. About one-third of the dust generated by construction activities consists of PM₁₀ in the range that can be inhaled by humans, although these particles are generally inert. Persons with respiratory diseases who may be immediately downwind of the construction activities could be sensitive to this dust. Therefore, the short-term PM₁₀ air quality impacts from fugitive dust during construction would be significant unless mitigation measures prescribed by BAAQMD are implemented; however, this project impact would be less than significant with implementation of **Mitigation Measures AQ-1 and AQ-2**.
- e) It is unlikely that the proposed project would create odors that would affect a substantial number of people. There are no odor complaints with regard to the existing facility and operations in the future are not expected to result in increases of odorous pollutant emissions.

REFERENCES – Air Quality

- Bay Area Air Quality Management District (BAAQMD), 1998. *Particulate Monitoring Matter Network Description for the Bay Area Air Quality Management District Planning*. BAAQMD Meteorology and Data Analysis Section Air Monitoring Section Technical Services. April 10, 1998.
- BAAQMD, 1999a. Toxic Air Contaminant Control Program Annual Report, 1998. December 1999.
- BAAQMD, 1999b. *Bay Area Air Quality Management District CEQA Guidelines*, Assessing the Air Quality Impacts of Projects and Plans, revised December 1999.
- BAAQMD, 2003. Ambient Air Quality Standards and Attainment Status, January 2003.
http://www.baaqmd.gov/pln/air_quality/ambient_air_quality.asp, accessed June 22, 2004.
- BAAQMD, 2004. Air Quality Data Summaries, 1999, 2000, 2001, 2002, 2003.
http://www.baaqmd.gov/pio/aq_summaries/index.asp, accessed July 13, 2004.

California Air Resources Board (CARB), 1998. Report to the Air Resources Board on the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Part A, Exposure Assessment, as approved by the Scientific Review Panel. April 22, 1998.

CARB, 2000. *Proposed Risk Reduction Plan for Diesel-Fueled Engines and Vehicles*, Public Draft. July 28, 2000.

Essex Environmental, 2003. *PG&E Potrero to Hunters Point 115 kV Cable Project Proponent's Environmental Assessment*. December 2003.

National Weather and Atmospheric Administration, 2004. NOAA Climate at a Glance for San Francisco. <http://www.ncdc.noaa.gov/oa/climate/research/cag3/cag3.html>. accessed July 24, 2004.

U.S. Environmental Protection Agency (U.S. EPA), 2003. Ambient Monitoring Air Data Summaries for Arkansas Station. <http://oaspub.epa.gov/airdata/adaqs.monvals>. accessed July 31, 2004.

2.4 BIOLOGICAL RESOURCES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
BIOLOGICAL RESOURCES—Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

INTRODUCTION

The proposed project area is located in a highly urbanized area and the proposed 115 kV cable line would be underneath paved City streets. Field surveys for botanical and wildlife resources were conducted on June 21, 2004 by driving the proposed project route and mapping adjacent land use types in general categories: residential, commercial, ornamental (*i.e.*, landscaped), and natural habitat (each type is described separately below). In general, a habitat assessment approach to the plant and wildlife surveys was adopted because all construction activities would take place within paved rights-of-way and footprint of existing switchyards. All plants observed were identified to the level necessary to determine whether they were special-status species.

The proposed project route is located within existing roadways, a paved parking lot, a vacant lot, and existing switchyards in the Potrero Hill/Hunters Point area of San Francisco.

VEGETATION

The proposed project route is dominated by commercial and industrial land uses with most of the proposed cable line to be installed within existing paved roads. At several locations along the roads, outside of the work right-of-way (ROW), ornamental landscaping has been planted along streets, industrial lots, and other facilities. Adjacent to the project area, in various scattered locations, are highly disturbed vacant dirt lots vegetated primarily with ruderal species. Between Cesar Chavez and Marin Streets, the project crosses a vacant dirt lot that is devoid of vegetation for approximately 40 feet.

Typical vegetation observed along the non-paved locations adjacent to the ROW, but outside the project area, includes mustard (*Brassica sp.*), sweet fennel (*Foeniculum vulgare*), yellow star thistle (*Centaurea solstitialis*), and dandelion (*Taraxacum officinale*). Additionally, oleander (*Nerium oleander*), wild radish (*Raphanus sativus*), California poppy (*Eschscholzia californica*), pampas grass (*Cortaderia sp.*), sticky monkey flower (*Mimulus aurantiacus*), and Mediterranean linseed (*Bellardia trixago*) were observed.

WILDLIFE

Wildlife species observed in the area are characteristic of industrial, residential, and highly disturbed urban areas and included Brewer's blackbird (*Euphagus cyanocephalus*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), rock dove (*Columba livia*), and western gull (*Larus occidentalis*).

HABITAT

The only locations along the proposed project route with the potential to support biological resources are two parks: India Basin Shoreline Park and Heron's Head Park. The parks are more than 100 feet from the Hunters Point Switchyard.

SENSITIVE SPECIES

The majority of the project area consists of an urbanized landscape, including streets and adjacent industrial and commercial facilities and warehouses. As such, sensitive plant and wildlife species are not expected to occur. No wildlife corridors are within, or would be impacted by, the proposed project. Sensitive wildlife with potential to occur in the vicinity would be restricted to a few isolated, non-developed areas adjacent to the proposed project route (see **Tables 2.4-1 and 2.4-2**). Between Cesar Chavez Street and Marin Street, the project crosses a vacant, dirt lot. This

**TABLE 2.4-1
SENSITIVE WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE PROJECT AREA**

Scientific Name/ Common Name	Listing Status		Habitat	Range	Potential for Species Occurrence in Project Area
	USFWS	CDFG			
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	Threatened	None	Shallow, serpentinite-derived or similar soils, restricted to native grasslands on outcrops of serpentinite soil	East, west, and south of San Francisco Bay, historically. Currently the San Francisco Peninsula, San Mateo County, and Santa Clara County	<i>Low</i> : Although historically found within the project area, no suitable habitat currently exists. No host plants (<i>Plantago erecta</i> , <i>Castilleja densiflorus</i> , <i>C. exserta</i>) were observed on or adjacent to the project.
<i>Icaricia icarioides missionensis</i> Mission blue butterfly	Endangered	None	Grasslands and coastal scrub, native larval food, and nectar plants	Limited distribution to San Bruno Mountain	<i>Low to none</i> : No host plants (<i>Lupinus albifrons</i> , <i>L. formosus</i> , <i>L. varicolor</i>) and no suitable habitat exist within the project area.
<i>Thamnophis sirtalis tetrataenia</i> San Francisco garter snake	Endangered	Endangered, fully protected	Seasonal and permanent wetlands and nearby uplands	San Mateo and North Santa Cruz counties	<i>Low to none</i> : No suitable habitat or prey base in the immediate vicinity of the project area.

USFWS = U.S. Fish and Wildlife Service

CDFG = California Department of Fish and Game

SOURCES: CDFG (2004a); CNDDB (2003); USFWS (2004a); USFWS (2004b)

**TABLE 2.4-2
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE PROJECT AREA**

Scientific Name/ Common Name	Listing Status			Habitat	Range	Flowering Times	Potential for Species Occurrence in Project Area
	USFWS	CDFG	CNPS				
<i>Astragalus tener</i> var. <i>tener</i> Alkali milk-vetch	Special concern	None	1B	Alkaline flats, vernal-moist meadows	East San Francisco Bay Area and North San Joaquin Valley	March through June	<i>Low to none:</i> Last collected in Potrero district in 1869. No suitable habitat present.
<i>Fritillaria liliacea</i> Fragrant fritillary	Special concern	None	1B	Heavy soil (includes serpentinite and clay), open fields, and fields near coast	Central western California	February through April	<i>Low:</i> Last observed in 1896. Some serpentinite soil exists adjacent to the project area.
<i>Grindelia hirsutula</i> var. <i>maritime</i> San Francisco gumplant	Special concern	None	1B	Sandy or serpentinite slopes, sea bluffs, valley and foothill grasslands	North central coast (San Francisco and San Mateo counties)	August through September	<i>Low:</i> Habitat search in 1985 did not discover this species. No suitable habitat present.
<i>Helianthella castanea</i> Diablo helianthella	Special concern	None	1B	Open grassy sites, coastal scrub, riparian woodland, valley and foothill grassland	North San Francisco Bay Area	April through June	<i>Low to none:</i> Last observed in 1920. No suitable habitat within the project area.
<i>Layia carnosa</i> Beach layia	Endangered	Endangered	1B	Coastal dunes	North coast and central coast	March through July	<i>Low to none:</i> Presumed to be extirpated by CNDDB at this location, as there are no coastal dunes.

TABLE 2.4-2 (Continued)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name/ Common Name	Listing Status			Habitat	Range	Flowering Times	Potential for Species Occurrence in Project Area
	USFWS	CDFG	CNPS				
<i>Linanthus rosaceus</i> Rose linanthus	Special concern	None	1B	Open or wooded areas, many plant communities	California, excluding Great Basin and Desert Provinces	April through June	<i>Low to none:</i> Last observed in 1885. No suitable habitat exists within the project area.
<i>Sanicula maritime</i> Adobe sanicle	Special concern	Rare	1B	Coastal, grassy, open wet meadows, ravines, valley and foothill grasslands	Primarily in San Francisco Bay Area	February through May	<i>Low to none:</i> Last observed in 1895. Assumed to be extinct at the Potrero Hills location by CNPS.
<i>Triphysaria floribunda</i> San Francisco owl's clover	Special concern	None	1B	Coastal grasslands, serpentinite slopes and non- serpentinite substrate	North central coast and west San Francisco Bay Area	April through June	<i>Low:</i> Considered extirpated in the Potrero area by L. Heckard/ CNDDDB. Last observed in 1881.
<i>Triquetrella californica</i> Coastal triquetrella	None	None	1B	Coastal bluff scrub, coastal scrub	San Francisco Bay Area	Not applicable	<i>Low to none:</i> No suitable habitat exists within the project area.

USFWS = U.S. Fish and Wildlife Service

CDFG = California Department of Fish and Game

CNPS = California Native Plant Society

CNDDDB = California Natural Diversity Database

SOURCES: CDFG (2004b); CNPS (2004); CNDDDB (2003); Essex Environmental (2003)

lot does not support habitat for any sensitive species. The proposed project route then continues east within the asphalted San Francisco Chronicle parking lot until reaching Marin Street.

Although historically serpentinite bedrock was abundant in this area, only a small fraction of exposed serpentinite bedrock remains within the project area (Essex Environmental, 2003). One sensitive butterfly species, Bay checkerspot butterfly, and several sensitive plant species (San Francisco owl's clover, Diablo helianthella, San Francisco gumplant, and Fragrant fritillary) are associated with this soil type.

Between Cesar Chavez Street and Evans Avenue, there are sections of ruderal vegetation adjacent to the proposed project route that are associated with the on-ramps and off-ramps to Interstate 280, as well as Caltrain construction workspace. Primarily non-native plant species were observed in these areas, with sweet fennel, pampas grass, and wild radish dominating the sites. The native California poppy was also observed. There is low potential for sensitive plant species to occur at these locations due to the lack of suitable habitat. Additionally, these areas are not needed for construction and are currently fenced off and would not be accessible by equipment or personnel during project construction.

There are planted trees within landscaped industrial parks, as well as other trees along the public roads located at least 10 feet from the edge of the ROW. Some of these trees may be of adequate size for raptor species to nest. However, existing traffic and other human activity would likely preclude raptor nesting in these trees. No raptors were observed during the site reconnaissance. Additionally, as the project area is highly industrialized, minimal foraging habitat exists to support these species. Therefore, no suitable habitat exists and no resident raptor species are expected to occur.

SWITCHYARDS

Both of the switchyards are gravel yards with multiple structures and other related equipment, and are fenced off from the surrounding environment. Because these locations are completely graded and covered with asphalt and gravel, the switchyards do not provide habitat for sensitive wildlife and plant species.

EXCAVATED MATERIALS STORAGE AND STAGING AREAS

Across the street from the Potrero Switchyard on the northeast corner of Illinois Street and 22nd Street, PG&E's General Construction yard provides storage for vehicles and other types of equipment. This yard would be used for storage of excavated material during construction. This yard is completely cleared and graded with gravel, except for a group of serpentinite rocks (in an approximately 20- to 60- foot wide, 100-foot long, and 25-foot tall area) in the northeast corner of the yard. The rocks are covered with ruderal vegetation, including eucalyptus trees and non-native grasses. Several plants listed by the CNDDDB are dependent on serpentinite soils. The serpentinite rocks are outside of the area that would be used for construction.

PG&E has identified another potential general construction yard located near the Hunters Point Switchyard, at the intersection of Cargo Way, between Third Street and Jennings Street. This existing construction yard is completely cleared, paved, and provides no habitat for sensitive wildlife or plant species.

As an alternative location to the general construction yard at Cargo Way between Third Street and Jennings Street, PG&E is discussing with the Port of San Francisco the use of land on Port property located northeast of Cargo Way between Jennings Street and Third Street. If this or an alternative location is chosen for use during construction, the site would be surveyed by a biologist prior to construction to verify that no sensitive resources are present.

REGULATORY CONTEXT

Because the proposed project is located within exiting roadways, a paved parking lot, a vacant lot, and existing switch yards, there is no relevant biological regulatory setting for the proposed project.

IMPACTS DISCUSSION OF BIOLOGICAL RESOURCES

METHODOLOGY AND SIGNIFICANCE CRITERIA

The analyses of the potential intensity of impacts to biological resources included a review of available information and databases published by agencies authorized to report such information for the project area. The analyses also included staff observations in the field within the project area. Site specific surveys were not conducted by specialists to determine the presence of rare or endangered biological resources; instead the analysis relied on existing information and databases to characterize the project area.

To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section. Environmental Setting and Mitigation Measures

The proposed project area is dominated by commercial and industrial uses with the proposed 115 kV cable line planned to be installed within existing roadways, a paved parking lot, a vacant lot, and existing switch yards in the Potrero Hill/Hunters Point area of San Francisco. Although historically serpentinite bedrock was abundant in this area, only a small fraction of exposed serpentinite bedrock remains within the project area and construction activities are not expected to occur within exposed reaches of serpentinite soils. Therefore, due to the nature of the proposed project, there would not be any significant adverse environmental impacts to biological resources, and therefore, no mitigation measures are required.

CHECKLIST IMPACT CONCLUSIONS

- a) Due to the reasons discussed above, the proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- b) Due to the reasons discussed above, the proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- c) Due to the reasons discussed above, the proposed project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- d) Due to the reasons discussed above, the proposed project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- e) Due to the reasons discussed above, the proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f) Due to the reasons discussed above, the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

REFERENCES – Biological Resources

- California Department of Fish and Game (CDFG), 2004a. *State and Federally Listed Endangered and Threatened Animals of California*.
- CDFG, 2004b. *State and Federally Listed Endangered and Threatened Plants of California*.
- California Natural Diversity Database, 2003. Special element occurrence. San Francisco South, San Francisco North, Hunters Point, and Montara Mountain quadrangles.
- California Native Plant Society, 2004. Inventory of Rare and Endangered Plants. <http://www.northcoast.com/~cnps/cgi-bin/cnps/sensinv.cgi> accessed September 22, 2004.
- Essex Environmental, 2003. PG&E Potrero to Hunters Point 115 kV Cable Project, Proponent's Environmental Assessment. December 2003.

United States Fish and Wildlife Service (USFWS), 2004a. Bay checkerspot (*Euphydryas editha bayensis*). http://sacramento.fws.gov/es/animal_spp_acct/bay_check.htm accessed September 22, 2004.

USFWS, 2004b. Mission blue butterfly (*Icaricia icarioides missionensis*). http://sacramento.fws.gov/es/animal_spp_acct/mission_blue_butterfly.htm accessed September 22, 2004.

2.5 CULTURAL RESOURCES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
CULTURAL RESOURCES—Would the proposed project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SETTING

Many of the original surveys of archaeological sites in the San Francisco Bay region were conducted between 1906 and 1908 by N.C. Nelson, which yielded the initial documentation of nearly 425 “earth mounds and shell heaps” along the littoral zone of the Bay (Nelson, 1907). From these beginnings, the most notable sites in the Bay region were scientifically excavated, including the Emeryville shellmound (Ala-309), the Ellis Landing Site (Cco-295) in Richmond, and the Fernandez Site (CC0-259) in Rodeo Valley (Morrato, 1984). These dense midden sites, such as Ala-309, have been carbon 14 dated to be 2310 ± 220 years old, although other evidence from around the Bay suggests that human occupation in the region is of greater antiquity, ± 5000 B.C. (Davis & Treganza, 1959). Many of the earliest sites suggested less emphasis on shellfish than the later middens, but were rather focused on hunting and vegetal food processing. The natural marshland biotic communities along the edges of bays and channels were the principal source for subsistence and other activities during the prehistory of the San Francisco Bay region.

Prehistorically, the Islais Creek flowed east from Twin Peaks, which maintained a 3,000-acre marsh that was tidally influenced through Islais Creek Cove. Potrero Point was located at the northern waters of Islais Creek Cove. The rich natural resources of the area would have been an attractive locale for food procurement to prehistoric cultures.

Having undergone significant landscape change from the prehistoric and protohistoric periods, this area has served as the center for many of the earliest manufacturing development in the Southern Waterfront area, which included a gun powder plant and the San Francisco Cordage Manufactory. By 1867, the Islais Creek Cove and marshlands were bridged by a trestle that spanned from Potrero Point to the Third Street shoreline near Innes Avenue (Hupman and

Chavez, 2001). The trestle was used to convey the Potrero and Bay View Railroad. With the extension of the railroad to the southern portion of San Francisco, in 1871, the City passed an ordinance to move the slaughterhouses from the populated areas of the city to the southeastern part of town, to the east side of the Third Street trestle between present-day Cargo Way and Burke Avenue (Hupman and Chavez, 2001). The area remained on the marginalized fringes of the city, essentially a dumping ground for the butchers, who allowed their waste to fall into the mud flats below to be washed into the Bay.

By the turn of the 20th Century, growing sentiment within the San Francisco business establishment to redevelop the Islais Creek marshlands into a channelized, navigable port for commerce led to the creation of the Islais Creek Reclamation District in 1925, which included 280 acres west of Third Street and 8 acres for the Islais Creek Channel (Dow, 1979 as cited in Hupman and Chavez, 1995). A 2,000-foot-long rock seawall was erected in the Islais Creek Cove, west of Third Street, creating the Islais Creek Channel. The mud removed during dredging of Islais Creek, along with local aggregate and rock, was used to fill the Islais Creek Cove and marshlands (Hupman and Chavez, 2001). The reclamation was tentatively completed in 1936, although many areas still remained unimproved.

With the establishment of the Islais Creek Channel, numerous wharves and piers were built to the north and south of the Channel. Additional piers and industrial plants were added along the Channel as the reclamation of the marshlands improved. In addition, the Interstate 280 overpass, which crosses the Islais Creek Channel, was completed in 1967 (Hupman and Chavez, 2001).

REGULATORY CONTEXT

Based on CEQA Guidelines Section 15064.5 and Appendix G, a project would have significant adverse impacts to cultural resources if the project would:

- Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5;
- Cause a substantial adverse change in the significance of an unique archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- Disturb any human remains, including those interred outside of formal cemeteries.

CEQA Guidelines Section 15064.5 provides that, in general, a resource not listed on state or local registers of historical resources shall be considered by the lead agency to be historically significant if the resource meets the criteria for listing on the California Register of Historical Resources. This section also provides standards for determining what constitutes a “substantial adverse change” that must be considered a significant impact on archaeological or historic resources.

According to CEQA Guidelines Section 15064.5(a)(3), generally a resource shall be considered “historically significant” if the resource meets the criteria for listing on the California Register of Historic Resources (Public Resources Code Section 5024.1, California Code of Regulations (CCR) Section 4852). When a project will impact an archeological site, it needs to be determined whether the site is a historical resource, which is defined as any site which:

- (a) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and
- (b) Meets any of the following criteria:
 - 1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
 - 2. Is associated with the lives of persons important in our past;
 - 3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
 - 4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, a resource included in a local register of historical resources, as defined by Public Resources Code Section 5020.1(k) or identified as significant in an historical resource survey meeting the requirements of Public Resources Code Section 5024.1(g), shall be presumed to be historically or culturally significant.

CEQA also requires lead agencies to consider whether projects will impact “unique archaeological resources.” Public Resources Code Section 21083.2 (g), states that “unique archaeological resource” means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- 1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.”

IMPACTS DISCUSSION OF CULTURAL RESOURCES

METHODOLOGY AND SIGNIFICANCE CRITERIA

To determine the level of significance of the impacts anticipated from the proposed project, the proposed project’s effects were evaluated as provided under the CEQA Guidelines. These

significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

The potential for encountering subsurface archaeological resources in the project area was established by literature review of previously conducted reports and previously recorded archaeological sites. In order to augment the archival research conducted by Essex Environmental (2003), a records search of all pertinent survey and site data was conducted at the Northwest Information Center, Sonoma State University, California (File # 03-1052). The records were accessed by utilizing the San Francisco South, North, and Hunters Point USGS 7.5-minute quadrangle maps, Township 2S, Range 5W. The review followed the proposed project route along with a quarter-mile buffer. Previous surveys and studies and archaeological site records were accessed as they pertained to the project area. Records were also accessed and reviewed in the Directory of Properties in the Historic Property Data File for San Francisco County for information on sites of recognized historical significance within the National Register of Historic Places, the California Register of Historic Resources (CRHR), the California Inventory of Historic Resources (1976), the California Historical Landmarks (1996), and the California Points of Historical Interest (1992).

Native American Consultation

The Native American Heritage Commission (NAHC) was contacted on June 15, 2004 in order to request a database search for sacred lands or other cultural properties of significance to local Native Americans. The sacred lands survey failed to indicate the presence of cultural resources in the project area. The NAHC provided a list of Native American contacts who may have further knowledge of the project area with respect to cultural resources and potential impacts to those resources that could occur as a result of the proposed project. Each person or organization listed on the NAHC list was contacted by letter requesting information about locations of importance to Native Americans. No response has been received as of the writing of this document.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

During the prehistoric period, the majority of the project area was submerged beneath the Islais and Precita Creek marshlands and the Islais Creek Cove. As a consequence, very few archaeological sites have been recorded in this area. The only prehistoric site recorded within a quarter-mile of the proposed project route is **CA-SFr-15**, a Nelson shellmound site recorded in 1909, located to the southwest. At the time of its recordation, the site was disintegrated and subsequent work in the area has revealed that the site may be located on Ingalls Street, rather than on the edge of the former Islais Creek marshlands near Jerrold Avenue as it is currently mapped at the Information Center (Olmsted et al, 1982).

Cultural / Archaeological Resources

No direct impacts to known cultural resources would occur during construction of the proposed project. Cultural resources, however, particularly archaeological resources, have unknown subsurface dimensions. Given the proximity of the proposed project to the mouth of a fresh water

**TABLE 2.5-1
RELEVANT RECORDED CULTURAL RESOURCES IN PROJECT AREA**

Designation	Location	Description	Comments	Reference
P-38-4313	2325 3rd St.	American Can Company	Found eligible for NRHP, Criterion A	Stock 2003
P-38-4276	1000 Evans Ave.	Hunters Point Power Station	Found ineligible for NRHP	Kelly 2002
CA-SFr-15		Nelson Site No. 389a	Early recordation of shell heap; exact location is uncertain	Nelson 1910

SOURCE: On File at the Northwest Information Center, Sonoma State University.

source, Islais Creek, and the known prehistoric shell midden, **CA-SFr-15**, there exists the potential for buried prehistoric cultural resources. In addition, portions of the trenching would pass through historical fill that is likely to be greater than 50 years of age, qualifying the contents of the fill as potential cultural resources. Underground trenching could damage or destroy unknown cultural resources if encountered, resulting in a potentially significant impact. The mitigation measures listed below would reduce potentially significant cultural resources impacts to a less than significant level.

Impact CR-1: Project construction could result in the disturbance of unknown buried prehistoric cultural resources and/or potential historic contents in artificial fill material along the project route. This would be a less than significant impact with implementation of Mitigation Measures CR-1a and CR-1b.

Mitigation Measure CR-1a: Pursuant to CEQA Guidelines 15064.5 (f), “provisions for historical or unique archaeological resources accidentally discovered during construction” shall be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and PG&E shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of PG&E and the qualified archaeologist shall meet to determine the appropriate course of action. All significant cultural resource materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.

Mitigation Measure CR-1b: PG&E shall notify a qualified paleontologist of any unanticipated discoveries made by either the cultural resources monitor or construction personnel and subsequently document the discovery as needed. In the

event of an unanticipated discovery of a breas, or seeps of natural petroleum that trapped extinct animals and preserved and fossilized their remains, and/or trace fossil during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find.

Human Remains

No human burials have been discovered within one mile of the proposed project route and no discoveries of human remains are anticipated as a result of the proposed project. However, if unanticipated human remains are uncovered during construction, implementation of **Mitigation Measure CR-2** would reduce this potentially significant impact to a less than significant level.

Impact CR-2: Project construction could result in the discovery and disturbance of unknown human remains. This would be a less than significant impact with implementation of Mitigation Measure CR-2.

Mitigation Measure CR-2: In the event of the discovery of human remains, the following measures shall be followed, pursuant to CEQA Guidelines 15064.5 (e)(1):

- (1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:**
 - (A) The City of San Francisco Coroner shall be contacted to determine that no investigation of the cause of death is required, and**
 - (B) If the Coroner determines the remains to be Native American:**
 - 1. The Coroner shall contact the Native American Heritage Commission within 24 hours.**
 - 2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.**
 - 3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.**

Historic Resources

The proposed project route intersects the Hunters Point Power Plant (P-38-004276) at approximately milepost (MP) 2.5. The site was determined ineligible for listing on the CRHR (Kelley, 2002), and does not qualify as a cultural resource under CEQA. In addition, the power plant structure would not be affected during project construction.

The American Can Company (P-38-004313), a complex of buildings located between 20th, 22nd, Third, and Illinois Streets, is directly adjacent to the proposed project routes. Built around 1919, this complex represents the burgeoning canning industry and labor movements of the early 20th century in California. Therefore, Stock (2003) recorded the complex as eligible for the National Register of Historic Places. However, the proposed project would be constructed underground in established roadways; therefore, the American Can Company buildings would not be materially altered.

Numerous additional historical buildings and structures have been recorded within the Southern Waterfront Area of San Francisco, many of which have been found eligible as either Districts (e.g. Dogpatch Historic District) or individually for the National Register or in local historical listings. The proposed project consists of underground cable installation in established roads—no alteration of the setting or directly to extant buildings would be required; consequently, no substantial adverse change to an historical resource is expected to occur.

Archaeological test auguring was conducted on Third Street near 23rd Street by Wirth and Associates (1979). The testing found that the location is graded approximately 13 feet above city datum, composed of sandy fill below the concrete. Therefore, it is unlikely any impacts to cultural resource would occur at this location at a depth of 0 to 12 feet below surface. This does not preclude the possible existence of subsurface historical artifacts in the area.

CHECKLIST IMPACT CONCLUSIONS

- a) No listed National or State Historic Register properties were found during the course of the archival search for the proposed routes. A number of archaeological and architectural surveys have been conducted in the project area that has not identified significant prehistoric cultural resources in the area (Hupman and Chavez, 1993). The proposed project route would not impact any known cultural resource sites; however, it is possible that unrecorded sites and/or isolated artifacts exist within the project area. The potential for encountering and disturbing known or unknown cultural resources would be minimized to a less than significant level with implementation of **Mitigation Measure CR-1a**.
- b) See item a), above.
- c) A records search of available paleontological site information was requested by Essex Environmental (2003) covering the project area from the Museum of Paleontology, University of California at Berkeley. The proposed project transects an area that is primarily underlain by artificial fill materials. Undifferentiated pre-Quaternary deposits and bedrock occur beneath the Potrero and Hunters Point switchyards and small areas in the western section of the project area (Geomatrix, 2003). The records search at the University of California, Museum of Paleontology did not identify any known fossil localities in the project area or its vicinity (Holroyd, 2003 as cited in Essex, 2003).

Significant fossil discoveries can be made even in areas designated as having low potential, and may result from project excavation and construction activities. This impact would be

reduced to a less than significant level with implementation of **Mitigation Measure CR-1b**.

- d). The presence of human remains have not been recorded in the project vicinity; however, the subsurface excavation required for construction of the proposed project could potentially disturb or destroy human remains from both prehistoric and historic time periods, including those interred outside of formal cemeteries. This is considered a potentially significant impact that would be reduced to a less than significant level with implementation of **Mitigation Measure CR-2**.

REFERENCES – Cultural Resources

- Davis, J. T. & A. E. Treganza, 1959. The Patterson Mound: A Comparative Analysis of the Archaeology of Site Ala-328. Berkeley: University of California Archaeological Survey Reports 47: 1-92.
- Hupman, J.M., and D. Chavez, 2003. *Archaeological Resources Investigations for the Bayview-Hunters Point Redevelopment Plan*, San Francisco, CA. On file at the Northwest Information Center, Sonoma State University. [25045]
- Hupman, J.M., and D. Chavez, 2001. *Archaeological Resources Review and Management Plan for the Muni Third Street Light Rail Project*. On file at the Northwest Information Center, Sonoma State University, Rohnert Park, CA. [File 25044].
- Hupman, J.M., and D. Chavez, 1995. *Archaeological Resources Investigations for the Waterfront Plan EIR, San Francisco, CA*. On file at the Northwest Information Center, Sonoma State University. [16882]
- Hupman, J.M., and D. Chavez, 1993. *Cultural Resources Investigation for the Bayside Phase II Discharge Alternatives EIR, San Francisco, CA*. On file at the Northwest Information Center, Sonoma State University.
- Geomatrix, 2003. *Quaternary Geology and Site Location, Potrero to Hunters Point 115 kV Underground Cable Project, San Francisco, California*.
- Moratto, M.J., 1984. *California Archaeology*. Smithsonian Press: San Diego, CA.
- Nelson, N.C., 1907. San Francisco Bay Mounds. University of California Archaeological Survey Manuscripts: 349.
- Olmsted, R.R., N.Olmsted, D. Fredrickson and V. Bente, 1982. *San Francisco Bayside, Historical Cultural Resources Survey*. On file at the Northwest Information Center, Sonoma State University, Rohnert Park, CA. [File 6157].
- Stock, J. R., 2003. DPR Primary Record, P-38-004313. On File at the Northwest Information Center, Sonoma State University.
- Wirth Associates, Inc., 1979. *Potrero 7 Phase II: Archaeological Test Excavations*. Prepared for Pacific Gas & Electric. On file at the Northwest Information Center, Sonoma State University.

2.6 GEOLOGY, SOILS, AND SEISMICITY

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
GEOLOGY, SOILS, AND SEISMICITY— Would the proposed project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

The surface geology along the proposed project route has been mapped as primarily artificial fill, with some bedrock (serpentinite) and a small amount of alluvium. A major portion of the proposed project is within the Islais Creek Basin. Prior to the late 1800s, the Islais Creek Basin consisted of a small bay and tidal marsh surrounded by hills. Since that time, the marshland and bay have been extensively filled. Significant portions were graded by excavating rock outcrops and soil overburden and using excavated material to fill low lying areas and the bay. The fill overlying bedrock is mostly excavated serpentinite of variable compactness with some areas of poorly to moderately compacted sand and/or clay. The original shoreline along the south side of Islais Creek Basin extended approximately along Evans Avenue.

The proposed project is located in an area of very high seismic risk, since it is adjacent to a major tectonic plate interface between the North American and Pacific crustal plates. Relative movements of these plates along their interface at the San Andreas Fault occurs not as a continuous drifting, but rather as a series of intermittent slips which are felt as earthquakes. In addition to the main trace of the San Andreas Fault, strain buildup resulting from movements along the plate interface is relieved by earthquakes occurring on many smaller faults throughout the Bay Area.

The proposed project is located within existing roadways, a paved parking lot, a vacant lot, and existing switchyards in the Potrero Hill / Hunters Point area of San Francisco.

REGULATORY CONTEXT

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zones Act), signed into law in December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near fault traces to reduce the hazard of fault rupture and to prohibit the location of most structures for human occupancy across these traces. Cities and counties must regulate certain development projects within the zones, which includes withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement (Hart, 1997). Surface fault rupture is not necessarily restricted to the area within a Fault Rupture Hazard Zone, as designated under the Alquist-Priolo Act. The project area is not located within such a zone.

SEISMIC HAZARDS MAPPING ACT

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. Geotechnical investigations conducted within Seismic Hazard Zones must incorporate standards specified by Council for Geoscience Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards (CGS, 1997). The California Geologic Society (CGS) has completed seismic hazard mapping for portions of California that are most susceptible to liquefaction and earthquake-induced landsliding, including San Francisco.

CALIFORNIA BUILDING STANDARDS CODE

The California Building Standards Code is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24. CCR Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in CCR Title 24 or they are not enforceable (Bolt, 1988).

Published by the International Conference of Building Officials (ICBO), the Uniform Building Code (UBC) is a widely adopted model building code in the United States. The California Building Code incorporates by reference the UBC with necessary California amendments. About one-third of the text within the California Building Code is tailored for California earthquake conditions (ICBO, 1997). The project area is located within Zone 4, which, of the four seismic zones designated in the United States, is expected to experience the greatest effects from earthquake ground shaking and therefore has the most stringent requirements for seismic design. Notwithstanding, the national model code standards adopted into Title 24 apply to all occupancies in California except for modifications adopted by state agencies and local governing bodies.

CPUC GENERAL ORDER NO. 128

The CPUC General Order No. 128, Rules for Construction of Underground Electric Supply and Communication System, 1998, establishes general rules that govern the construction of underground electric and communication lines to promote and safeguard public health and safety. The Order focuses on standard design, construction, and maintenance criteria of these lines.

SAN FRANCISCO GENERAL PLAN COMMUNITY SAFETY ELEMENT

A revised version of the San Francisco General Plan Community Safety Element was adopted by the Planning Commission on April 27, 1997, and approved by the Board of Supervisors on August 11, 1997. The updated Element contains current policies that require new structures built in areas where site conditions could pose hazards, such as liquefaction or landslide, to be constructed in ways that reduce those hazards. Policy 2-3 is to “consider site soils conditions when reviewing projects in areas subject to liquefaction or slope instability.” Policy 2-9 is to “consider information about geologic hazards whenever City decisions that will influence land use, building density, building configuration or infrastructure are made” (City of San Francisco, 1997).

To implement the life safety policies of the Community Safety Element, as well as the Seismic Hazard Mapping Act, engineers and inspectors at the City and County of San Francisco Department of Building Inspection (DBI) should work closely with a geotechnical team to ensure that all life safety issues are addressed by special site investigations and that appropriate recommendations are included in a geotechnical report, if needed. The recommendations are incorporated in the permit requirements for proposed construction. Each proposed construction site is evaluated individually, based on its actual surface and subsurface conditions.

IMPACTS DISCUSSION OF GEOLOGY, SOILS, AND SEISMICITY

METHODOLOGY AND SIGNIFICANCE CRITERIA

The analysis of the potential intensity of impacts to geology and soils was derived from available soil maps, technical publications, test data, and other relevant publications that characterize the project area. This information was compared with the construction and design criteria of the proposed project. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. These significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The project site is located in the Coast Ranges Geomorphic Province, which is an area of relatively high seismic activity. Several major northwest-trending fault zones are anticipated to generate major earthquakes that could induce significant ground shaking at the site, including the San Andreas Fault Zone (the dominant fault zone in California), and a number of smaller fault zones are located within 40 miles of the project site. In addition to the San Andreas and Hayward faults listed in **Table 2.6-1**, a major earthquake on any of the faults listed in **Table 2.6-1** could produce strong ground shaking at the site, affecting the proposed facilities. Shaking amplification is rated as "Extremely High" (8 on a scale of 1 to 8, with 8 rating the highest amplification) and the modified Mercalli intensity rating as high as IX-Violent (9 on a scale of 1 to 10, with 10 rating as very violent) for a major earthquake on the entire San Andreas Fault (ABAG, 2004). In an earthquake of that magnitude, damage to structures, roads, and infrastructure would be heavy throughout the project area. Geologic and seismic hazards that present the greatest potential impact to the proposed project include strong ground shaking and seismically induced ground deformations due to liquefaction, lateral spreading, and differential settlement.

TABLE 2.6-1
FAULTS IN THE PROJECT VICINITY

Fault	Activity^a	Distance (miles)	MCE^b
San Andreas	Holocene (Active)	7.5	8.3
Hayward	Holocene (Active)	11.0	7.0
Seal Cove – San Gregorio	Holocene (Active)	10.5	7.1
Calaveras	Holocene (Active)	21.0	7.0

^a Age is the period of recorded or most recent geologic evidence of earthquake displacement on a fault.

^b MCE is the Maximum Credible Earthquake, Richter magnitude, an estimate of the largest earthquake that is judged by geologic studies to be capable of occurring on a fault or segment of a fault.

SOURCE: USGS (2004)

Impact GEO-1: Structural damage could occur over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. This would be a less than significant impact with implementation of Mitigation Measure GEO-1.

Expansive soils possess a “shrink-swell” behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may occur over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils.

Mitigation Measure GEO-1: A site-specific, design level geotechnical investigation shall be performed to assess the extent and consequence of the expansive soils. The sub grade shall be prepared and foundations constructed as recommended in the investigation to limit the impact due to expansive soils to less than significant. Recommendations and conclusions determined by a registered geotechnical engineer or qualified civil engineer shall be incorporated in the final design as part of the project. The design measures selected to mitigate expansive soil hazards shall be submitted to and approved by PG&E and the CPUC.

Impact GEO-2: The proposed project could result in increased erosion, especially in areas that are underlain by Bay Mud and other fine-grained material and also where the soil would be exposed during construction. This would be a less than significant impact with implementation of Mitigation Measure GEO-2.

Erosion is the wearing away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind, and underground water. Soils containing high amounts of fine sands or silt can be easily erodible, while clay soils are less susceptible. Excessive soil erosion can eventually lead to damage of building foundations and roadways. At the project site, areas that are susceptible to erosion are those that are underlain by Bay Mud and other fine-grained material and also areas where the soil would be exposed during the construction phase. Typically, the soil erosion potential is reduced once the soil is covered with concrete, structures, or asphalt.

Mitigation Measure GEO-2: During construction and grading, erosion and sediment control measures shall be conducted in accordance with best management practices for the reduction of pollutants in runoff (refer to Section 2.8, *Hydrology and Water Quality*). The components of the proposed project would be subject to NPDES requirements and would require the acquisition of a NPDES general construction permit. Erosion of soil materials to local waterways and its affects on water quality are further discussed in Section 2.8, *Hydrology and Water Quality*. Best management practices for sediment and dust control shall be implemented to limit the impact due to erosion to a less than significant level. Best management erosion control measures shall also be implemented in unpaved areas, including the property between Cesar Chavez and Marin Streets.

Impact GEO-3: The proposed project could be adversely affected by differential settlement, fault rupture, liquefaction, and seismic-related ground failure. This would be a less than significant impact with implementation of Mitigation Measure GEO-3.

Differential Settlement

If not properly engineered, loose, soft, soils comprised of sand, silt, and clay have the potential to settle after a building or other load is placed on the surface. Differential settlement of the loose soils generally occurs slowly, but over time can result in damage to most structures. The weak and compressible nature of Bay Mud and the artificial fills that have not been placed using good engineering practices provide poor support for structure and infrastructure. Differential settlement can damage buildings and their foundations, roads and rail lines, and result in breakage of underground pipes. Implementation of **Mitigation Measure GEO-3** would reduce any impacts related to differential settlement to a less than significant level.

Fault Rupture

Ground fault rupture is the direct manifestation of the movement that has occurred along a fault, projected to the ground surface. It consists of concentrated, permanent deformation of the ground surface, and in major earthquakes, can extend along the trace of the fault for many miles. This deformation can be in either a horizontal and/or vertical direction. Depending on the type of soils present at the site, the zone of ground deformation associated with fault rupture may be limited to a band a few inches wide, located directly over the fault, or it may be spread out over several hundred feet. A ground-surface rupture involving more than a few inches of movement within a concentrated area will cause major damage to the structures that cross it. Fault displacements associated with great earthquakes may be as large as 30 feet. In general, the precise location and total length of faults are not known because they are covered by alluvium. Fault displacements produce forces so great the best method of limiting damage to structures is to avoid building in areas close ground traces of faults. Implementation of **Mitigation Measure GEO-3** would reduce any impacts related to fault rupture to a less than significant level.

Liquefaction and Seismic-Related Ground Failure

Liquefaction is a phenomenon whereby unconsolidated and saturated soils lose cohesion and are converted to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking results in the temporary fluid-like behavior of the soil. Four kinds of ground failure commonly result from liquefaction: lateral spread, flow failure, ground oscillation, and loss of bearing strength. *Lateral spreading* is a horizontal displacement of surficial blocks of sediments resulting from liquefaction in a subsurface layer that occurs on slopes ranging between 0.3 and 3 percent and commonly displaces the surface up to tens of meters. *Flow failures* occur on slopes greater than 3 degrees and are primarily liquefied soil or blocks of intact material riding on a liquefied subsurface zone. *Ground oscillation* occurs on gentle slopes when liquefaction occurs at depth and no lateral displacement takes place. Soil units that are not liquefied may pull apart from each other and oscillate on the liquefied zone. The *loss of bearing strength* can occur beneath a structure when the underlying soil loses strength and liquefies. When this occurs, the structure can settle, tip, or even become buoyant and “float”

upwards. Liquefaction and associated failures could damage foundations, disrupt utility service, and cause damage to roadways.

Soil liquefaction causes ground failure that can damage roads, pipelines, underground cables, and buildings with shallow foundations. Liquefaction can occur in areas characterized by water-saturated, cohesionless, granular materials at depths less than 40 feet (ABAG, 2003). In addition, liquefaction can occur in unconsolidated or artificial fill sediments located in the Project Area and other reclaimed areas along the margin of San Francisco Bay. The depth to groundwater influences the potential for liquefaction in this area, in that sediments need to be saturated to have a potential for liquefaction (Helley and LaJoie, 1979). Hazard maps produced by the Association of Bay Area Governments (ABAG) depict liquefaction and lateral spreading hazards for the entire Bay Area in the event of a significant seismic event (ABAG, 2003).¹ According to these maps, the project site is in an area expected to have a high potential to experience liquefaction. CGS has designated the project and surrounding area as a Seismic Hazard Zone (CGS, 2001) for liquefaction potential; the mitigation measure listed below would reduce potentially significant impacts to a less than significant level.

Mitigation Measure GEO-3: A site-specific, design level geotechnical investigation, shall be performed to assess the potential for liquefaction and seismic-related ground failure in susceptible areas along the selected project route. The duct bank and vaults shall be designed to accommodate or mitigate the effects of ground settlement and loss of foundation bearing strength in the event of an earthquake. A geotechnical assessment of the rail crossings at Third and 23rd Streets, Third and Evans Avenue, and Evans Avenue and Quint Street, shall be performed to ensure that the boring alignment and bore casing design appropriately address and minimize the impact of liquefaction. Recommendations and conclusions determined by a registered geotechnical engineer or qualified civil engineer shall be incorporated in the final design as part of the project. PG&E shall submit the design measures selected to mitigate liquefaction to the CPUC for review and approval.

Impact GEO-4: The proposed project is in an area underlain by artificial fill, which could be susceptible to earthquake-induced settlement. This would be a less than significant impact with implementation of Mitigation Measure GEO-4.

Consolidation of loose soils and poorly-consolidated alluvium can occur as a result of strong seismic shaking, causing uniform or differential settlement of building foundations. Structures supported on deep pile foundations are more resistant to such settlements. However, in the 1985 Mexico Earthquake, buildings supported on piles experienced substantial damage due to differential settlements between pile-supported buildings and non-supported slabs-on-grade.

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid consolidation and settling of subsurface materials (particularly loose, noncompacted, and variable sandy sediments) due to the

¹ Lateral spreading is a ground failure associated with liquefaction and generally results from predominantly horizontal displacement of materials toward relatively unsupported free slope faces.

rearrangement of soil particles during prolonged ground shaking. Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or Bay Mud. Areas underlain by artificial fill would be susceptible to this type of settlement. Given the geologic setting of the proposed project, this area could be subjected to earthquake-induced settlement. Accordingly, this issue is discussed in further detail in the Checklist Impact Conclusion section of this chapter.

Mitigation Measure GEO-4: A site-specific, design level geotechnical investigation shall be performed to assess the extent and consequence of ground instability. The duct bank, vaults, and substation structures shall be designed to accommodate or mitigate the effects of ground settlement and loss of foundation bearing strength in the event of an earthquake. Recommendations and conclusions determined by a registered geotechnical engineer or qualified civil engineer shall be incorporated in the final design as part of the project. PG&E shall submit the design measures selected to mitigate ground instability hazards to the CPUC for review and approval prior to construction.

Impact GEO-5: The proposed project could be susceptible to ground shaking effects in the event of an earthquake. This would be a less than significant impact with implementation of Mitigation Measure GEO-5.

Landslides

A landslide is the downhill movement of masses of earth under the force of gravity. Earthquakes can trigger landslides in areas that are already landslide prone. Slope gradient is often a clue to stability. Landslides are most common on slopes of more than 15 degrees, and can generally be anticipated along the edges of mesas and on slopes adjacent to drainage courses.

Ground Shaking

Ground shaking includes both horizontal and vertical motions that can last up to several minutes during major earthquakes. Generally, the intensity of ground motion decreases with distance from the zone of fault rupture. However, local soil conditions can amplify and modify the character of ground motion to produce more intense effects at individual sites. Strong ground shaking from a major earthquake could affect San Francisco within the next 30 years.

Earthquakes on the active faults in the area, including the San Andreas and Hayward faults are expected to produce significant ground shaking at the project site. Ground shaking may affect areas hundreds of miles distant from the earthquake's epicenter. Historic earthquakes have caused strong ground shaking and damage in the San Francisco Bay Area, the most recent being the magnitude² 6.9 Loma Prieta Earthquake in October 1989. The epicenter was approximately 40 miles southeast of the project site, but this earthquake nevertheless caused strong ground shaking for about 20 seconds and resulted in varying degrees of structural damage throughout the Bay Area.

² The Richter magnitude (M) scale reflects the maximum amplitude of a particular type of seismic wave.

The 1906 San Francisco Earthquake, with an estimated moment magnitude (M_w)³ of 7.9, produced strong (VIII) to violent (IX) shaking intensities (ABAG, 2004b). The 1989 Loma Prieta Earthquake, with an M_w of 6.9, produced very strong (VIII) shaking intensities in the project area (ABAG, 2004b).

It is estimated that ground shaking causes over 90 percent of all earthquake-related damage to structures. The common way to describe ground motion during an earthquake is with the motion parameters of acceleration and velocity in addition to the duration of the shaking. A common measure of ground motion is the Peak Ground Acceleration (PGA). The PGA for a given component of motion is the largest value of horizontal acceleration obtained from a seismograph. PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 32.2 feet per second squared. In terms of automobile accelerations, one “g” of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

The lowest values recorded were 0.06 g in the bedrock on Yerba Buena Island from the Loma Prieta Earthquake (CGS, 1990). The presence of non-engineered artificial fill and Bay Mud in the project area could intensify ground shaking effects in the event of an earthquake on one of the aforementioned faults in the vicinity of the project area. The PGA for this project has been previously estimated at 0.61 g with a 10 percent probability of exceeding the estimated 0.61 g in 50 years. This probability exceedance equates to an event with a recurrence interval of 475 years and is consistent with the Design Basis Earthquake inherent in modern building codes. The presence of non-engineered artificial fill and Bay Mud in the project area could intensify ground shaking effects in the event of an earthquake on one of the aforementioned faults in the vicinity of the project area.

Mitigation Measure GEO-5: Switchyard components, new substation equipment, structures and foundations shall be procured and designed in accordance with PG&E’s engineering practices, which include the application of seismic design provisions (e.g., the Institute of Electrical and Electronic Engineers (IEEE) 693 for selected critical equipment, the current edition of the California Building Code (CBC), and various industry standards) intended to mitigate earthquake damage to substation equipment and structures. The design criteria selected to mitigate ground shaking hazards shall be submitted to and approved by PG&E and the CPUC.

CHECKLIST IMPACT CONCLUSIONS

- a.i) The project site is not located in an Alquist-Priolo Earthquake Fault Zone, as defined by CGS. A short pre-Quaternary fault and shear zone was mapped by Schlocker (1974) extending west-northwestward from about 22nd and Illinois Streets to 20th and Missouri Streets (Essex Environmental, 2003). However, this fault is not considered active or

³ Moment magnitude is related to the physical size of a fault rupture and movement across a fault. The Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event (CDMG, 1997b). The concept of “characteristic” earthquake means that we can anticipate, with reasonable certainty, the actual earthquake that can occur on a fault.

potentially active. The nearest active faults are the San Andreas fault, located approximately 7.5 miles to the west of the proposed project route; the Seal Cove-San Gregorio fault, located approximately 10.5 miles west of the proposed project route; the Calaveras fault, located approximately 21 miles east of the proposed project route; and the Hayward fault, located approximately 11 miles east of the proposed project route. Since the site is not located on an active or potentially active fault, the potential for surface fault rupture is low and the impact is considered less than significant.

- a.ii) PG&E's Proponent's Environmental Assessment identifies 0.61g as the estimated PGA with a 10 percent probability of exceedance in 50 years (Essex Environmental, 2003). Peak spectral accelerations may be on the order of 1.0 g. These are substantial accelerations which must be considered in the design process for all components of the project. Through proper engineering design and implementation of **Mitigation Measure GEO-5**, the potential impacts on the project due to ground shaking would be less than significant. Additionally, the proposed project itself would not affect the ground shaking hazard for other structures in the area.
- a.iii) CGS has included the non-bedrock areas along the proposed project route in the Liquefaction Hazard zone for the City of San Francisco (CGS, 2001). Because of the variable or heterogeneous nature of the artificial fills, generalized liquefaction is estimated to be unlikely; however, localized area of liquefaction may occur in fill across the area. Through proper reinforcement and engineering design and implementation of **Mitigation Measure GEO-3**, the potential impacts on the proposed project due to liquefaction would be less than significant. Additionally, the proposed project itself would not affect the liquefaction potential for other structures in the area.
- a.iv) As discussed in the Setting of this section, landslides are most common on slopes of more than 15 degrees. The entire length of the proposed project route is located within existing roadways, a paved parking lot, a vacant lot, and existing switchyards. The area is relatively flat and, therefore, impacts related to landslides would be less than significant.
- b) Construction activities such as excavations for the duct bank, vaults, bore pits, and switchyard foundations have the potential to generate water-carried sediment and wind-blown dust. Construction activities involving soil disturbance, excavation, and grading activities could result in increased erosion and sedimentation to surface waters. Through best management practices and implementation of **Mitigation Measure GEO-2**, the impact that the proposed project would have on soil erosion would be less than significant.
- c) Portions of the project areas are susceptible to landsliding, lateral spreading, subsidence, and liquefaction. Through proper reinforcement and engineering design and implementation of **Mitigation Measures GEO-3 and GEO-4**, the potential impacts on the proposed project due to ground instability would be less than significant. Additionally, the proposed project itself would not affect the ground stability for other structures in the area.

- d) Portions of the natural soils and variable fills may have expansive soils (Essex Environmental, 2003). Through proper reinforcement and engineering design and implementation of **Mitigation Measure GEO-1**, the potential impacts on the proposed project due to expansive soils would be less than significant. Additionally, the proposed project itself would not affect the ground stability for other structures in the area.
- e) The proposed project would not include the installation of a septic tank or use of alternative wastewater disposal systems. Accordingly, there would be no impacts involving the use of septic tanks or alternative wastewater disposal systems.

REFERENCES – Geology, Soils, and Seismicity

- Association of Bay Area Governments (ABAG), Earthquake Hazards Map for San Francisco. <http://www.abag.ca.gov/cgi-bin/pickmapx.pl>, accessed July 6, 2004
- ABAG, 2004b, Modeled Shaking Intensity Map for San Francisco, 1989 Loma Prieta and 1906 San Andreas Earthquake. <http://www.abag.ca.gov/cgi-bin/pickmapx.pl> accessed July 6, 2004
- ATI Architects and Engineers, 2004. *Draft Geology and Seismicity Technical Memorandum, PG&E Potrero to Hunters Point 115 kV Cable Project*, Document Number E2105-MEM-001-RV1. June 23, 2004.
- Bolt, Bruce, A., 1988. *Earthquakes*, W.H. Freeman and Company, New York, NY.
- California Geologic Survey (CGS), 2001. State of California Seismic Hazard Zones, City of San Francisco Official Map.
- CGS, 1997. *Guidelines for Evaluating and Mitigating Seismic Hazards*, CDMG Special Publication 117.
- CGS, 1990. Special Publication 104, *The Loma Prieta Santa Cruz Mountains California Earthquake of 17 October 1989*.
- City of San Francisco, 1997. *San Francisco General Plan*, Community Safety Element, adopted April 27, 1997 by the San Francisco Planning Commission, approved August 11, 1997 by the Board of Supervisors.
- City of San Francisco, 1996. Community Safety – An Element of the *Master Plan of the City of San Francisco*, March 1996.
- Dames & Moore, 1997. *Preliminary Geotechnical Evaluation, Site Development at Proposed Cargo Way Site, Metro East Maintenance Facility, Muni Third Street Light Rail Project*.
- Essex Environmental, 2003. *PG&E Potrero to Hunters Point 115kV Cable Project, Proponent's Environmental Assessment*. December 2003.
- International Conference of Building Officials (ICBO), 1997. Uniform Building Code, Whittier, CA.
- United States Geologic Survey (USGS), 2002. Earthquake Hazards Program – Northern California. <http://www.quake.wr.usgs.gov/research/seismology/wq/02> accessed July 6, 2004

2.7 HAZARDS AND HAZARDOUS MATERIALS

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
HAZARDS AND HAZARDOUS MATERIALS				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

INTRODUCTION

Definitions

Materials and waste may be considered hazardous if they are poisonous (toxicity), can be ignited by open flame (ignitability), corrode other materials (corrosivity), or react violently, explode, or generate vapors when mixed with water (reactivity). The term “hazardous material” is defined by

statute as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.¹

Hazardous Materials / Waste

In some cases, past industrial or commercial uses on a site can result in spills or leaks of hazardous materials and petroleum to the ground, resulting in soil and groundwater contamination. Federal and state laws require that soils having concentrations of contaminants such as lead, asbestos, gasoline, or industrial solvents that are higher than certain acceptable levels must be handled and disposed as hazardous waste during excavation, transportation, and disposal. The California Code of Regulations (CCR), Title 22, Section 66261.20-24 contains technical descriptions of characteristics that would cause a soil to be classified as a hazardous waste. The use of hazardous materials and disposal of hazardous wastes are subject to numerous laws and regulations at all levels of government (see Regulatory Context, below).

EXISTING CONDITIONS

Artificial Fill

The proposed project area is located in the southeast industrial area of the City of San Francisco. This portion of San Francisco is underlain by artificial fill materials, including debris from the 1906 earthquake, that the City placed there in the early 1900s in an effort to reclaim the San Francisco Bay for real estate. This artificial fill material is a heterogeneous collection of manmade debris, sand, clay, and mud brought up from the Bay. In some cases, the fill material contains contaminants, including petroleum-based chemicals and heavy metals, at concentrations that can cause human health concerns.

The proposed project area is almost entirely located within the area covered under the Maher Ordinance, that portion of San Francisco bayward of a historic, pre-1906 earthquake high tide line. The City of San Francisco developed the Maher Ordinance to address potential contamination in the artificial fill materials that are found in its reclaimed Bay margin areas. Maher Ordinance requirements are designed to identify whether hazardous levels of organic or inorganic constituents exist in the artificial fills beneath a proposed development, and if concentrations detected pose a threat to workers or the public. The San Francisco Department of Public Health oversees implementation of the Maher Ordinance.

Types of Contamination

Types of businesses in the project area include manufacturing, commercial wholesale, automobile and truck repair, and graphic design and production. These and other businesses purchase, store, use, and dispose of chemicals and other materials, which could be considered hazardous depending upon the quantity and how that chemical or material is used. Petroleum and other hazardous materials have contaminated the shallow soil and groundwater at certain sites within

¹ State of California, Health and Safety Code, Chapter 6.95, Section 25501(o).

the project area over the past years of industrial operations. The property owners, under direction of the City have cleaned up some of these sites; however, others may have varying levels of soils and groundwater contamination. A common source of contaminant is petroleum leaking from underground storage tanks (USTs). Over years of use, underground storage tank systems corrode, fail, and release petroleum into the subsurface soils and shallow groundwater. One particular problem with leaking USTs is that the leak can continue unnoticed for months, even years, without detection, causing considerable contamination.

Electric and Magnetic Field Concerns

Electricity transmission or use can generate electromagnetic fields (EMF), which are caused by the presence and motion of electric charges. Electric and magnetic fields are a separate phenomena that occur naturally, caused by the earth's magnetic field and weather patterns, as well as by man's technological application of the electromagnetic field.

Electric fields are created whenever voltage exists on a conductor and are not dependent on current. The field strength is primarily a function of the operating voltage of the line and decreases with the distance from the source. Electric fields can be shielded by any conducting material, such as the earth, duct banks, structures, trees, etc.

Magnetic fields are present whenever current flows in a conductor and are not dependent on voltage. The field strength also decreases with distance, but unlike electric fields, objects and materials have little shielding effect on magnetic fields. Magnetic field strength is typically measured in milliGauss (mG) units.

Over the past several years, media reports on potential EMF exposure from power lines have generated much public interest and concern. As a result of the public concerns, researchers have conducted numerous national and international sponsored studies to further understand and quantify the risks of EMF and the resultant health risks. In an effort to determine whether health standards are necessary, agencies such as the California Public Utilities Commission (CPUC), California Department of Health Services (CDHS), the U.S. Environmental Protection Agency (U.S. EPA), and the National Institute of Environmental Health Sciences (NIEHS), have reviewed the research. The technical review of scientific data regarding EMF conducted by these state and federal agencies concluded that there is no basis for setting health standards for EMF (ATI Architects and Engineers, 2004). The CPUC Decision 93-11-013 issued on November 2, 1993 to address public concern about possible EMF health effects from electric utility facilities concluded the following:

“We find that the body of scientific evidence continues to evolve. However, it is recognized that public concern and scientific uncertainty remain regarding the potential health effects of EMF exposure. We do not find it appropriate to adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value.”

CPUC Decision 93-11-013 further directed all utilities to take a “no cost” approach to mitigating EMF exposure and to implement low-cost options through the project certification process. Low

cost measures are defined as those that will cost four percent or less of the total project cost and will reduce the magnetic field strength by approximately 15 percent or more at the edge of the right-of-way. The following are examples of EMF reduction measures in accordance with CPUC Decision 93-11-013:

- Increased distance from conductors and equipment
- Reduced conductor spacing
- Minimize current
- Optimize phase configuration
- Maximize the distance between above ground conductors at the substations and the public right of way.
- Maximize the distance between the underground cables and nearby sidewalks and buildings.
- Increase the burial depth of the duct bank.
- Increase the distance between overhead conductors and the ground.
- Reduce current in conductors, if possible.

A final field management plan would be submitted to the CPUC for review at least 30 days prior to construction. This plan would, at a minimum, include the following:

- A description of the project.
- A description of the surrounding land uses considering priority criteria classifications per PG&E guidelines.
- An assessment of total EMF exposure levels at the substation fence lines.
- No-cost options to be implemented.
- Priority areas where low-cost measures are to be applied.
- Measures considered for magnetic field reduction, percent reduction, and cost.
- Identification of mitigation options selected and how areas were treated equivalently, as well as an explanation of which low-cost measures cannot be applied due to cost, percent reduction, equivalence, or other reason.

Other specific EMF reduction measures may be imposed by the CPUC after its “unprecedented precautionary measures” taken in Final Decision 39112-15 for the Jefferson-Martin 230 kV project. On August 19, 2004, the Commission, in its Final Decision required several changes to PG&E's preliminary EMF management plan for the proposed project. These changes included: adopting a single 4 percent EMF mitigation benchmark for the entire project, lowering the depth of the underground lines to 11 feet deep in all residential areas and by schools, daycare centers, senior centers, parks, and similar public places. Additional unprecedented precautionary measures imposed by the Commission include arranging conductors in a triangular configuration to reduce EMF levels, as well as strategic line placement along the entire route to reduce EMF exposure.

The CPUC provides information about EMF in its environmental documents, including this MND, to inform the public and decision makers; however, it does not consider EMF in the context of CEQA and environmental impact because there is no agreement among scientists that EMF creates a potential health risk and because CEQA does not define or adopt standards for defining any potential risk from EMF.

However, the CPUC, on July 30, 2004, filed an Order Instituting Rulemaking that will focus on the determining “if there are improvements that should be made to the Commission’s existing rules and regulations concerning electromagnetic fields (EMFs) associated with electric transmission lines or other utility electric facilities” noting that the Commission’s interim policy has not been updated in over ten years.

There is the potential for exposure of the public to EMF from the cable line. For the proposed project, most of the underground duct bank would be within roadways. For the proposed single-circuit cable line, the calculated magnetic field strength varies from a maximum of 18.4 mG at the centerline and 2.4 mG at 20 feet from the centerline (PG&E, 2004; Best Best and Kreiger, 2004). The exposure² to the driving public therefore would vary from 18.4 mG to 2.4 mG or less depending on distance to the cable. On sidewalks, the pedestrian exposure typically would be 2.4 mG or less, as long as the cable is 20 feet from the edge of the sidewalk. However, where the cable is perpendicular to and beneath the sidewalk the local exposure to pedestrians may be as high as 18.4 mG. This results in a greatly reduced width of exposure as compared to an overhead line. The underground cables would transition to above ground structures at the existing substations at each end of the project route. The field strength of the above ground conductors at the substation fence line has not been provided. In addition, the existing EMF levels induced by other utilities in the project vicinity are not known.

Existing Environment

For the purposes of this MND analysis, ESA retained Environmental Data Resources (EDR) of Southport, Connecticut to conduct a regulatory database search of sites adjacent to and in the vicinity of the project area that are listed on agency files for the documented use, storage, generation, or releases of hazardous materials or petroleum products. The database search process reviews several lists generated by federal, state, county, and/or city regulatory agencies for historically contaminated properties and businesses that use, generate, or dispose of hazardous materials or petroleum products in their operation. In addition, the EDR search reviews lists of active contaminated sites that are currently undergoing monitoring and remediation. The databases searched and reviewed by EDR for this project are listed in **Table 2.7-1**. Potential sites of past historic hazardous materials use, storage, and/or contamination might have occurred prior to the activation of agency maintained databases.

The sites listed in **Table 2.7-2** have experienced a release of hazardous materials or petroleum products that have resulted in contamination of soil and/or groundwater. The sites include those

² Because the cable line would not ever be able to reach its full operating capacity, these estimated levels of EMF comprise a worst-case EMF scenario.

TABLE 2.7-1
REGULATORY AGENCY DATABASES ACCESSED FOR EDR DATABASE REVIEW

Database	Type of Record	Agency
NPL	National Priority List	U.S. EPA
CORRACTS	RCRA Corrective Actions	U.S. EPA
CERCLIS/ NFRAP	Sites currently or formerly under review by the EPA	U.S. EPA
RCRIS-TSD	RCRA permitted treatment, storage, disposal facilities	U.S. EPA
RCRIS-GEN	RCRA registered small or large generators of hazardous waste	U.S. EPA
RAATS	RCRA violations/ enforcement actions	U.S. EPA
FINDS	Facility information and “pointers” to other sources that contain more detail	U.S. EPA
ERNS	Emergency Response Notification System of Spills	U.S. EPA
HMIRS	Hazardous Material Spill Incidents Reports	U.S. Department of Transportation
MINES	Mines Master Index Database	U.S. Dept. of Labor, Mine Safety and Health Administration
MLTS	List of sites which possess or use radioactive materials and are subject to NRC licensing requirements	U.S. Nuclear Regulatory Commission
TRIS/TSCA	Facilities which release toxic chemicals to air, water and land/Facilities that manufacture or import chemical substances	U.S. EPA
PADS	Generators, Transporters, Commercial Storers of PCBs	U.S. EPA
CAL-SITES	Potential or confirmed hazardous substance release sites	STATE
AWP	Known hazardous waste sites	STATE
LUST	Leaking Underground Storage Tanks	STATE
STATE LANDFILL	Permitted solid waste landfills (active, inactive and closed), incinerators or transfer stations	STATE
CA WDS	Waste Discharge System	STATE
SWF/LF	Active, closed and inactive landfills	STATE
WMUDS/SWAT	Waste management units	STATE
DEED	Sites with deed restrictions	STATE
CORTESE	State index of properties with hazardous waste	STATE
TOXIC PITS	Toxic pits cleanup facilities	STATE
CHMIRS	Reported hazardous material incidents	STATE
NOTIFY 65	Reported releases that could impact drinking water	STATE
HAZNET	Facilities that generate hazardous waste	STATE
UST/AST	Registered underground and aboveground storage tanks	STATE/COUNTY

AWP: Annual Workplan Sites
 CALSITES: California Department of Toxic Substances Control Database of Hazardous Substances Releases
 CERCLIS: Comprehensive Environmental Response, Compensation & Liability Information System
 CHMIRS: California Hazardous Material Incident Report System
 CORRACTS: Corrective Action Report System, an EPA database of corrective actions taken at a RCRA Regulated site.
 CORTESE: Based on input from 14 state databases
 DEED: List of Deed Restrictions
 HAZNET: Hazardous Waste Information System
 MLTS: Material Licensing Tracking System
 NFRAP: No Further Remedial Action Planned (archived CERCLIS sites)
 NOTIFY 65: Proposition 65 Records
 PADS: PCB Activity Database System
 RCRA: Resource Conservation and Recovery Act
 SWF/LF: Solid Waste Information System
 TRIS/TSCA: Toxic Chemical Release Inventory System/Toxic Substances Control Act
 WMUDS/SWAT: Waste Management Database

SOURCE: EDR Report (2004)

**TABLE 2.7-2
HAZARDOUS MATERIALS RELEASE SITES IDENTIFIED ALONG THE PROJECT ROUTE**

Site ID – see Figure 2.7-1	Site Name	Address	Status
1	PG&E Hunters Point Power Plant	1000 Evans Avenue	The site is listed in the Resource Conservation and Recovery Information System as it generates, transports, and stores hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). There are RCRA generator violations recorded in the EDR report (2004). There are aboveground storage tanks at the facility for diesel; leaks were reported in 1991 and 1998. There are no known pending violations as a result of the leaks.
2	US Postal Service	1300 Evans Avenue	In 1998 two underground fuel storage tanks were removed. Post remediation monitoring is underway at the site.
3	Circosta Iron and Metal Company	1801 Evans Avenue	In 1999 one underground gasoline tank was removed. A site investigation is underway.
4	Parisian Bakeries Inc. / San Francisco French Bread	1995 Evans Avenue	This leaking underground fuel storage tank location was remediated and closed on May 29, 1998.
5	BR Funsten & Co.	2045 Evans Avenue	This leaking underground fuel storage tank location was remediated and closed on June 2, 1998.
6	Karkar Electronics, Inc./ O'Neill Inc. / Shurgrid Storage Centers	2090 Evans Avenue	This leaking underground fuel storage tank location was remediated and closed on November 14, 1995.
7	Armbee Corp.	390 Selby Street	In 1996 one underground gasoline storage tank was removed. A total of 63 cubic yards of soil were excavated and 330 gallons of groundwater were pumped out of the excavation. The excavation was backfilled with stockpiled soil and clean imported fill. The case was closed by the RWQCB on October 31, 1997
8	East Impax Inc.	500 Selby Street	In 1995 one underground gasoline storage tank was removed. A total of 30 cubic yards of soil were excavated and the excavation was backfilled with stockpiled soil and clean imported fill. The case was closed by the RWQCB on October 10, 1996.
9	Consolidated De Pue Corp, RMR Construction	101 Toland Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on July 10, 1995.

TABLE 2.7-2 (Continued)
HAZARDOUS MATERIALS RELEASE SITES IDENTIFIED ALONG THE PROJECT ROUTE

Site ID – see Figure 2.7-1	Site Name	Address	Status
10	Olympian Commercial Fueling Systems / Franco and Sons	200 Toland Street	In May 2002 an unknown amount of diesel and gasoline was spilled. The soil and groundwater were impacted. A preliminary site assessment work plan has been submitted to the RWQCB.
11	Roadway Express	201 Toland Street	In 2002 nitric acid leaked from a carton at a truck terminal. The spill was cleaned up. In 1987 an underground gasoline tank and an underground motor oil tank were removed. In 1992 an underground diesel fuel tank was removed. Soil and groundwater were impacted. Remediation is underway at this site.
12	Trail Ways Facility / Marriott Industries / AM Travel	290-300 Toland Street and 290 Maple Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on February 20, 1997.
13	Angotti & Reilly	1601 Galvez Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on July 18, 1995.
14	Green Glen Linen Inc. / Patent Scaffolding	1975 Galvez Avenue	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on July 18, 1996.
15	G Owens	2050 Galvez Avenue	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on October 10, 2000.
16	San Francisco Warehouse	175 Napoleon Street	A site investigation is underway.
17	Carpenter Rigging	222 Napoleon Street	This leaking underground fuel storage tank location was remediated and closed in 1999.
18	Habenicht & Howlett	888 Marin Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on January 29, 1992.
19	Loomis A Moed	1060 Marin Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on September 22, 1995.
20	CCSF Muni Railway-Gannex Site	1301 Cesar Chavez	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on November 17, 1994.

TABLE 2.7-2 (Continued)
HAZARDOUS MATERIALS RELEASE SITES IDENTIFIED ALONG THE PROJECT ROUTE

Site ID – see Figure 2.7-1	Site Name	Address	Status
21	San Francisco Newspaper Agency	1901 Cesar Chavez	Beginning in the late 1930s the American Smelting and Refining Company produced brass and lead ingots on this site. Federated Metals Corporation owned and operated a secondary metals plant at the site. Copper matte, crushed batteries, and lead slag were deposited on the site. In 1987 the San Francisco Newspaper Agency acquired the property. Two underground fuel (gasoline and diesel) storage tanks were removed. Sampling and analysis indicated elevated concentrations of arsenic, lead, chromium, nickel, mercury in the soil. Nickel and octylphthalate were detected in the groundwater. The old refinery building was demolished and a new building was constructed. The rest of the site was paved with asphalt. Contaminated soils were left in place with the asphalt cap cover. A deed restriction to limit future uses of the site was recorded in October 2003.
22	Graney Corp USA / CCSF Muni Granex	1301 Army Street	This leaking underground fuel storage tank location was remediated and closed in 1994.
23	Federated Fry Metals Corp / Federated Fry / San Francisco Newspaper Agency	1901 Army Street	Remediation is occurring at this site. The site has been capped and has a deed restriction on land use.
24	Karkar-General Signal / Grosvenor Properties	1920-2190 Army Street	A preliminary assessment was completed and the DTSC determined that no further action was necessary.
25	CCSF Purchasing / Central Shops / CCSF DPW Corp Yard / Public Works Department	2323 Army Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on January 8, 1996.
26	Muni Woods Facility	1095 Indiana Street	This is a leaking underground storage tank location where groundwater monitoring began in 1994.
27	Herman Associates	1405 Indiana Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on July 21, 1994.
28	Rent a Junker / Wong Property	1590 Indiana Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on November 22, 1994.
29	Warehouse	1601 Indiana Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on September 8, 1997.

TABLE 2.7-2 (Continued)
HAZARDOUS MATERIALS RELEASE SITES IDENTIFIED ALONG THE PROJECT ROUTE

Site ID – see Figure 2.7-1	Site Name	Address	Status
30	Exxon Svc Station	1111 Pennsylvania Avenue	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on August 9, 1991.
31	Yellow Cab Cooperative	1200 Mississippi Street	In 1999, when an underground motor oil storage tank was removed, puddle oil was observed affecting the parking lot and area beneath the tank. In a separate reported incident in 1999, waste motor oil and radiator fluids were stored in an above ground tank with a berm around it. The tank was removed but there is still product seeping through the berm into the storm drain. Remediation is underway at this site.
32	Minnesota St LLC / Warehouse / Forne National / Barbara Corneille / Allied Taxi Svc	1200 Minnesota Street	This site experienced two separate releases from underground fuel storage tanks. Both incidences were remediated and closed by the RWQCB on January 23, 1998 and October 22, 1999.
33	Commercial Property	991 Tennessee Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on June 3, 1999.
34	E Mitchell, Inc.	993 Tennessee Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on September 28, 1998.
35	Grenier Wholesale Liquor	1500 Tennessee Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on August 17, 1998.
36	Sherman Little Property	1520 Tennessee Street	The leaking underground fuel storage tank location was remediated and closed by the RWQCB on June 19, 1995.
37	PG&E Potrero Power Plant	1201 Illinois Street	A manufactured gas plant operated on the north portion of the site from 1872 until 1930. The plant was dismantled in the early 1960s. PG&E owned and operated a power plant at the site. The power plant property was sold to Southern Energy Potrero LLC in 1999. Site investigations that were performed prior and subsequent to the sale of the site found that chemicals of potential concern included metals, pesticides, PCBs, polycyclic aromatic hydrocarbons, and petroleum hydrocarbons. The RWQCB was designated as the administering agency for investigation and remediation of the site on April 17, 2001. Investigation is currently continuing at the site as to the nature and extent of contamination.
38	Delano Brothers	1300 Illinois Street	The site was remediated and closed by the RWQCB on January 13, 2000.

TABLE 2.7-2 (Continued)
HAZARDOUS MATERIALS RELEASE SITES IDENTIFIED ALONG THE PROJECT ROUTE

Site ID – see Figure 2.7-1	Site Name	Address	Status
39	Muni / Western Pacific Railroad Yard	25th and Illinois Streets	In 1987 soil and groundwater contamination was found at the site. The contaminants of concern include lead, arsenic, solvents. Post remediation monitoring has begun at this site.
40	Boland Trucking Co., Inc. / Airborne Express	435 2Third Street	Pollution characterization is underway.
41	Bonelli Enterprises / Blakeway Metal	101 Cargo Way	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on December 13, 1996.
42	The Safety House	1605 Jerrold Avenue	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on November 3, 1993.
43	Peninsula Oil Company	1634 Jerrold Avenue	A preliminary site assessment is underway.
44	CCSF SE Treatment Plant / Pump Station	750 Phelps Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on November 29, 1995.
45	Balliet Brothers Construction	2065 Third Street	A site investigation is underway.
46	Metropolitan Elec.	2400 Third Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on May 14, 1997.
47	Olympian Commercial Fueling System / SF Bay Tours / Rothman Schatz & Marchi	2690 Third Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on May 10, 1995.
48	Phoebus Lighting	2800 Third Street	This leaking underground fuel storage tank location was remediated and closed in 1999.
49	Former Muni Site / Army Street	3000 Third Street	This leaking underground fuel storage tank location was remediated and closed in 1998.
50	TGC Truck Repair	3240 Third Street	Pollution characterization is underway at this site.
51	San Francisco Port Authority	3301 Third Street	A site investigation is underway.
52	India Basin Car Wash / Former Gas Station	3433 Third Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on May 7, 1999.

TABLE 2.7-2 (Continued)
HAZARDOUS MATERIALS RELEASE SITES IDENTIFIED ALONG THE PROJECT ROUTE

Site ID – see Figure 2.7-1	Site Name	Address	Status
53	Meye Properties / Peters Transportation	3600 Third Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on January 7, 1997.
54	Shell Oil	3750 Third Street	Preliminary Site Assessment is underway.
55	Unocal / Circle K	3800 Third Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on May 7, 1999.
56	San Francisco Truck Repair	4040 Third Street	Preliminary Site Assessment is underway.
57	Joseph Scheid Property	4049 Third Street	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on September 6, 1996.
58	Port of San Francisco	Pier 46B	This leaking underground fuel storage tank location was remediated and closed by the RWQCB on February 13, 1997.

RWQCB = Regional Water Quality Control Board
DTSC = Department of Toxic Substances Control

SOURCE: Environmental Data Resources (2004)

that are located along the proposed project route where the underground cable circuit would be installed, along with sites located within 1,000 feet of the proposed route. Those sites located along and adjacent to the route are of greatest concern, while those located at a distance of 1,000 feet may not have an impact to the soils and groundwater beneath the proposed project route location. A distance of 1,000 feet was chosen because some contaminants, such as methyl tertiary butyl ether (MTBE), can travel through the groundwater to impact sites at that distance.

Figure 2.7-1 shows the locations of the listed sites along the proposed project route and within 1,000 feet of it that have experienced a release of hazardous materials or petroleum products that may result in the encounter of contaminated soil or groundwater during project construction.

The EDR search identified other sites in addition to the sites of potential concern listed in the **Table 2.7-1**. These other sites listed on the EDR database search report along the proposed project route include: hazardous material/waste storage, generation, and treatment facilities; underground storage tank locations; above ground storage tank locations; dry cleaning facilities; sites with waste discharge requirements; pesticide-producing facilities; and facilities with air emissions. These facilities are not considered to be a concern for the proposed project because they have not been listed as having experienced any releases or contamination. These facilities operate under permits with specific requirements in accordance with applicable laws and regulations, and are typically inspected on a regular basis by the regulating agency(ies).

PG&E WORKER SAFETY AND PUBLIC SAFETY

PG&E has procedures in place that control its construction work activities in contaminated areas. Before or during the detailed design phase of a project, PG&E generally performs subsurface soil sampling to identify areas containing contaminated soils along the project route. At intervals along the entire project route, and especially in areas of known potential contamination, PG&E extracts and test samples of soil and groundwater to identify type and concentration of contaminants. The design-phase sampling program helps identify health hazards that may be encountered during construction, and is used to develop appropriate construction practices and procedures as a part of a Health and Safety Plan and Hazardous Substance Control and Emergency Response Plan. These plans are developed to ensure worker safety as well as to reduce the potential for discharges of pollutants from the contaminated soils. All soil and groundwater sampling follows proper testing and handling protocols for hazardous waste and water collection and decontamination procedures.

In addition to the pre-project soil and groundwater testing, PG&E incorporates standard procedures for work in contaminated soils into proposed project construction methods. These procedures are incorporated to ensure worker safety as well as to protect the environment during construction in contaminated areas. Specific construction procedures are developed after identifying contaminants in a project area and may include a Worker Training Program, use of personal protective equipment and clothing, containment and testing of potentially contaminated soils and water, and use of a qualified observer, as well as implementation of construction best management practices to prevent accidental transport of contaminants outside the construction area.

To maintain a safe, orderly, and efficient work site, appropriate barriers and warnings are generally located to prevent any pedestrians from crossing into the work area.

EMERGENCY RESPONSE / EVACUATION PLAN

San Francisco Office of Emergency Services coordinates and manages resources and personnel during emergencies. As part of this coordination effort, this office follows an Emergency Operations Plan, which details communication, emergency command and control centers, and other related operations. The Emergency Response District within the project area is associated with the San Francisco Fire Department Battalion Station at 2245 Jerrold Street. There are four corresponding staging areas associated with this district. Only one of these, located at the Webster (Daniel) School, is within 0.5 mile of the project area (Essex Environmental, 2003).

REGULATORY CONTEXT

FEDERAL

The U.S. EPA is the lead agency responsible for enforcing federal regulations that affect public health or the environment. The primary federal laws and regulations include the Resource Conservation and Recovery Act of 1976 (RCRA) and the Hazardous and Solid Waste Amendments enacted in 1984; the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); and the Superfund Act and Reauthorization Act of 1986 (SARA). Federal statutes pertaining to hazardous materials and wastes are contained in the Code of Federal Regulations (CFR), Title 40. The Federal Occupational Safety and Health Administration (Fed/OSHA) is the agency responsible for ensuring worker safety. The Federal Department of Transportation regulates the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act.

The following represent federal laws and guidelines governing hazardous substances:

- Pollution Prevention Act (42 U.S.C. § 13101 et seq. / 40 CFR)
- Clean Water Act (33 U.S.C. § 1251 et seq. / 40 CFR)
- Oil Pollution Act (33 U.S.C. § 2701-2761 / 30, 33, 40, 46, 49 CFR)
- Clean Air Act (42 U.S.C. § 7401 et seq. / 40 CFR)
- Occupational Safety and Health Act (29 U.S.C. § 651 et seq. / 29 CFR)
- Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 136 et seq. / 40 CFR)
- Comprehensive Environmental Response Compensation and Liability Act (42 U.S.C. § 9601 et seq. / 29, 40 CFR)
- Superfund Amendments and Reauthorization Act Title III (42 U.S.C. § 9601 et seq. / 29, 40 CFR)
- Resource Conservation and Recovery Act (42 U.S.C. § 6901 et seq. / 40 CFR)
- Safe Drinking Water Act (42 U.S.C. § 300f et seq. / 40 CFR)

- Toxic Substances Control Act (15 U.S.C. § 2601 et seq. / 40 CFR)

STATE

California hazardous materials laws incorporate federal standards, but are often more strict than federal laws. The primary applicable state laws include the *California Hazardous Waste Control Law* (HWCL), the State equivalent of RCRA, and the *California Hazardous Substance Account Act*, the State equivalent of CERCLA. State hazardous materials and waste laws are contained in the California Code of Regulations (CCR) Titles 22 and 26. State underground storage tank (UST) laws and regulations are contained in the CCR Title 23. The California Safety and Health Administration (Cal-OSHA) is the state agency responsible for assuring worker safety in the handling and use of chemicals in the workplace. Applicable State laws include the following:

- Porter Cologne Water Quality Control Act (California Water Code § 13000-14076 / 23 CCR)
- California Accidental Release Prevention Law (California Health and Safety Code § 25531 et seq. / 19 CCR)
- California Building Code (California Health and Safety Code § 18901 et seq. / 24 CCR)
- California Fire Code (California Health and Safety Code § 13000 et seq. / 19 CCR)
- California Occupational Safety and Health Act (California Labor Code § 6300-6718 / 8 CCR)
- Hazardous Materials Handling and Emergency Response “Waters Bill” (California Health and Safety Code § 25500 et seq. / 19 CCR)
- Hazardous Waste Control Law (HWCL) (California Health and Safety Code § 25100 et seq. / 22 CCR)
- Carpenter-Presley-Tanner Hazardous Substance Account Act “State Superfund” (California Health and Safety Code § 25300 et seq. / California Revenue and Tax Code § 43001 et seq.)
- Hazardous Substances Act (California Health and Safety Code § 108100 et seq.)
- Safe Drinking Water and Toxic Enforcement Act “Proposition 65” (California Health and Safety Code §§ 25180.7, 25189.5, 25192, 25249.5-25249.13 / 8, 22 CCR)
- California Air Quality Laws (California Health and Safety Code § 39000 et seq. / 17 CCR)
- Aboveground Petroleum Storage Act (California Health and Safety Code § 25270 et seq.)
- Pesticide Contamination Prevention Act (California Food and Agriculture Code § 13141 et seq. / 3 CCR)
- Underground Storage Tank Law “Sher Bill” (California Health and Safety Code § 25280 et seq. / 23 CCR)

The California Environmental Protection Agency (Cal/EPA) and the California Office of Emergency Services (OES) establish rules governing the use of hazardous substances. The State Water Resources Control Board (SWRCB) has primary responsibility to protect water quality and supply. The San Francisco Regional Water Quality Control Board (RWQCB), the California Integrated Waste Management Board (CIWMB), and the California Department of Toxic Substances Control (DTSC) are responsible for the regulation of disposal of hazardous wastes.

Hazardous Substances Use

Cal/EPA was created in 1991 to better coordinate state environmental programs, reduce administrative duplication, and address the greatest environmental and health risks. Cal/EPA unifies the state's environmental authority under a single accountable, cabinet-level agency. The Secretary for Environmental Protection oversees the following agencies: Air Resources Board, Integrated Waste Management Board, Department of Pesticide Regulation, State Water Resources Control Board, Department of Toxic Substances Control, and Office of Environmental Health Hazard Assessment. Within Cal/EPA, the Department of Toxic Substances Control has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the generation, transport, and disposal of hazardous substances under the authority of the Hazardous Waste Control Law.

Hazardous Substances Disposal (Hazardous Substance Landfills)

The Regional Water Quality Control Boards (RWQCB) regulate hazardous waste disposal in landfills in California. In addition, the California Integrated Waste Management Board (CIWMB) also issues permits for landfills (Waste Discharge Requirements and Solid Waste Facility Permits). Also, the Department of Toxic Substance Control has regulatory authority for Class I hazardous waste landfills. Landfill classifications are defined as follows:

- **Class I** landfills may accept hazardous and non-hazardous wastes
- **Class II** landfills may accept "designated" and non-hazardous wastes. Designated wastes typically include such materials as non-friable asbestos, sewage sludge (biosolids), bag house waste, grit, street sweepings, petroleum contaminated soil, triple-rinsed pesticide containers, etc.
- **Class III** landfills may accept all non-hazardous municipal solid waste.

LOCAL

The Hazardous Materials Unified Program Agency, part of the Environmental Health Section of the San Francisco Department of Public Health, enforces the Hazardous Materials and Hazardous Waste Ordinances of San Francisco, as well as oversees the cleanup of sites contaminated by leaky underground petroleum storage tanks. UST owners who wish to remove their tanks are required to obtain agency approval. If contamination is encountered during tank removal, the cleanup is overseen by the Local Oversight Program within the Hazardous Materials Unified Program Agency.

The San Francisco Department of Public Works, Bureau of Environmental Regulations and Management (BERM), regulates the discharge of industrial wastewater, including dewatering effluent, to the combined sewer system under the Industrial Waste Ordinance and Department of Public Works Order Number 158170. Discharges resulting from the dewatering of construction sites, or any other activities that generate wastewater other than that from routine commercial and industrial processes, must comply with the Requirements for Batch Wastewater Discharges issued

by BERM. Requirements specify analytical requirements and discharge limits for organic and inorganic constituents in discharges. Applications for permits to perform batch wastewater discharges must be submitted to the BERM for approval. In areas along the alignment where groundwater dewatering would be necessary (if any), permits to perform batch wastewater discharges would be required.

There are local ordinances that meet or exceed state and federal requirements for site investigations and the storage of hazardous substances. These include San Francisco Public Works Code, Article 20, §1000 *et seq.* (the “Maher Ordinance”); San Francisco Municipal Code, Article 21 (the Hazardous Materials Ordinance); San Francisco Municipal Code, Article 22 (the Hazardous Waste Ordinance); and San Francisco Health Code, Article 22A (Analyzing Soils for Hazardous Waste). The relevant portions of Articles 20 and 22A (which effectively implement the Maher Ordinance) come into play at the time of application for building permit(s).

Maher Ordinance

The 1986 Maher Ordinance, as amended, requires an investigation of hazardous materials in soil at certain construction sites as a prerequisite for any building permit. The Maher Area encompasses the area of San Francisco bayward of a historic, pre-1906 earthquake high tide line. As discussed above, this area of San Francisco was largely created by landfill material where past industrial land uses and debris fill associated with the 1906 earthquake and Bay reclamation often left hazardous residue in local soils and groundwater. The Maher Ordinance was developed to protect workers and citizens from exposure to potential hazardous waste during project construction.

The Maher Ordinance requires that, if more than 50 cubic yards of soil are to be disturbed and the project is on fill, or is at a location designated for investigation by the director of the Department of Public Health, applicants for building permits must, among other things, prepare a site history and analyze the site’s soil for hazardous materials.

Under the Maher Ordinance, as implemented under the San Francisco Health Code, Article 22A and San Francisco Public Works Code, Article 20, the following is required:

- Provide to the Director of the San Francisco Department of Public Health a site history of the property prepared by an individual with the requisite training and experience.
- Soil sampling and analysis to determine the presence of hazardous wastes in the soil, with analysis including inorganic persistent and bioaccumulative toxic substances, volatile organic toxic pollutants, PCBs, pH levels, cyanides, methane and other flammable gases, total petroleum hydrocarbons, semi-volatile compounds, hazardous wastes, and any other hazardous wastes that may be present on the property.
- Soil analysis report prepared and submitted to the Director of the San Francisco Department of Public Health, the California Department of Toxic Substances Control, the San Francisco Bay Regional Water Quality Control Board, and any other required agencies.

- If the soil sampling and analysis report or site history indicates that the property is listed on the National Priorities List or the list of California Hazardous Substances Account Act release sites, a certification of verification from the appropriate federal or state agency that site mitigation has been completed shall be provided to the Director of the San Francisco Department of Public Health.
- If the soil sampling and analysis report indicates that hazardous wastes are present in the soil, a site mitigation report shall be prepared and submitted to the Director of the San Francisco Department of Public Health.

Hazardous Materials Ordinance

The Hazardous Materials Ordinance provides for safe handling of hazardous materials in San Francisco. Any person or business that handles, sells, stores, or otherwise uses hazardous materials in quantities exceeding specified thresholds and for specified periods, is required by Article 21 to register the hazardous materials with the Department of Public Health and prepare and implement certain plans and reporting procedures.

Hazardous Waste Ordinance

The Hazardous Waste Ordinance provides for safe handling of hazardous wastes in San Francisco. The ordinance incorporates the state requirements for hazardous waste described in § 6.5 (Hazardous Waste Management) of the California Health and Safety Code as well as the accompanying regulations found in CCR Title 22. Wastes generated by lead-based paint and asbestos removal, in addition to other proposed project activities, may be subject to this ordinance.

San Francisco Building Code – Chapter 36

Construction and renovation activities must comply with Chapter 36 of the San Francisco Building Code, Work Practices for Exterior Lead-Based Paint. If any work, as part of the proposed project, would disturb or remove lead paint on the exterior of a building constructed prior to December 31, 1978, Chapter 36 requires specific notification and work standards, and identifies prohibited work methods and penalties.

IMPACTS DISCUSSION OF HAZARDS AND HAZARDOUS MATERIALS

METHODOLOGY AND SIGNIFICANCE CRITERIA

The analyses of the potential intensity of impacts from hazards and hazardous materials included a review of the environmental database report for the project area. Additional information that characterizes the area, such as reports published by agencies for the region or project area was used as applicable. Where possible, mapped locations showing specific locations of concern were analyzed. The analyses also included staff observations in the field within the project area. Sampling and analytical activities were not conducted by a team member to determine the presence of hazardous materials; instead the analysis relied on existing information and databases

to characterize the project area. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

Asbestos-related impacts are discussed in Section 2.3, *Air Quality*.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The proposed project would not require long-term use, storage, treatment, disposal, or transport of significant quantities of hazardous materials. Materials proposed for use in conduit could include polyethylene and polyvinyl chloride (PVC). Polyethylene is a common inert plastic used to fabricate soda bottles (PET bottles) and children's toys and does not pose an environmental hazard. Polyvinyl chloride is also an inert material commonly used in the residential community for sprinkler piping. While vinyl chloride, a known toxic substance, is used in the production of PVC piping, once fabricated, PVC has no vapor pressure and does not pose an immediate environmental hazard. Degradation of some PVC products (such as window blinds) has been shown to release lead dust and chlorine to the environment over time, given exposure to sunlight. However, the cable would be buried in over three feet of soil and would not be exposed to environmental conditions that would result in substantial degradation.

The proposed project could result in an accidental release of hazardous materials stored in staging areas and used during the construction of the proposed project that could enter nearby waterways, adjacent lands, or public roadways. Exposure to contaminated soil and groundwater from existing and unidentified contamination that may be encountered during excavation and/or dewatering activities could also occur during project construction activities.

Impact HAZ-1: Construction excavation could encounter contaminated materials, causing an increase in risk of exposure of hazardous materials to humans and the environment. In addition, construction activities requiring the use of hazardous materials may increase the risk of exposure to hazardous materials. This would be a less than significant impact with implementation of Mitigation Measures HAZ-1a and HAZ-1b. Additionally, Mitigation Measure LUP-1, provided in Section 2.9 *Land Use*, shall be implemented to minimize impacts to sensitive receptors.

Mitigation Measure HAZ-1a: PG&E shall ensure, through the enforcement of contractual obligations, that all contractors transport, store, and handle construction-related hazardous materials in a manner consistent with relevant regulations and guidelines, including those recommended and enforced by the U.S. Department of Transportation, RWQCB, San Francisco Department of Public Health, and the local fire department. PG&E shall also ensure that all contractors control the source of any leak and immediately contain any spill utilizing appropriate spill containment and countermeasures. If required by any regulatory agency, contaminated media shall be collected and disposed of at an off-site facility approved to accept such media. In addition, all precautions required by the RWQCB-issued National Pollution Discharge Elimination System (NPDES) construction activity storm water permits

shall be taken to ensure that no hazardous materials enter any storm drains or nearby waterways.

Mitigation Measure HAZ-1b: PG&E shall implement all development requirements within the area regulated under San Francisco's Maher Ordinance, which include soil sampling and analysis for specific inorganic and organic chemicals. PG&E shall also implement its specific protocol for subsurface soil sampling and testing for contaminated soils during construction activities. In addition to the requirements of the Maher Ordinance and PG&E's protocols, the following mitigation measures shall be implemented to ensure that impacts regarding the potential to expose the public, workers, and the environment to contaminated soil, surface, and/or groundwater along the proposed route would remain less than significant:

- ***Hazardous Substance Control and Emergency Response Plan*** – PG&E shall prepare a Hazardous Substance Control and Emergency Response Plan (the Plan) for the project and implement it during project construction. The Plan shall prescribe hazardous material handling procedures to reduce the potential for a spill during construction, or exposure of the workers or public to hazardous materials. The Plan shall also include a discussion of appropriate response actions in the event that hazardous materials are released or encountered during excavation activities. In addition, the Plan shall include proposed methodologies for tracking and managing excavation materials, including asphalt, concrete, debris, and soil. Details on dust control, runoff control, tarping, and air monitoring (of the trench and temporary excavated materials storage areas) shall be included in the Plan. PG&E shall submit the Plan to the Hazardous Material Unified Program Agency, or another appropriate oversight agency, for review and approval prior to initiating any project-related excavation activities.
- ***Health and Safety Plan*** – PG&E shall prepare and implement a Health and Safety Plan to ensure the health and safety of construction workers and the public during project construction. The Plan shall include information on the appropriate personal protective equipment to be used during excavation activities and material loading, testing, and disposal.
- ***Stormwater Pollution Prevention Plan*** – PG&E shall prepare a Stormwater Pollution Prevention Plan (SWPPP) for the proposed project to be implemented during construction. The SWPPP shall contain information on engineering controls to minimize turbid stormwater runoff or the acceleration of sedimentation rates.
- ***Environmental Training Program*** – PG&E shall ensure that an environmental training program is established and implemented to communicate environmental concerns and appropriate work practices to all construction field personnel. The training program shall emphasize site-specific physical conditions to improve hazard prevention and shall include a review of the Health and Safety Plan, Hazardous Substance Control and Emergency Response Plan, and the SWPPP.
- ***Emergency Spill Supplies and Equipment*** – PG&E shall ensure that oil-absorbent material, tarps, and storage drums are used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept adjacent to all

areas of work and in staging areas and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting released hazardous materials shall be provided in the proposed project's Hazardous Substance Control and Emergency Response Plan, which shall be implemented during construction.

- ***Environmental Field Monitoring*** – PG&E shall ensure that a trained environmental monitor be present during all proposed project excavation activities. The monitor shall be equipped with the appropriate equipment to monitor air quality in excavation trenches and to observe excavation spoils for the presence of potentially hazardous materials. PG&E shall ensure that the monitor has the experience and authority to select the appropriate personal protective equipment, determine appropriate soil and groundwater handling and disposal requirements, modify work activities, or stop work at any time to ensure worker and public health and safety. The environmental monitor shall be approved by the CPUC prior to the start of construction activities.
- ***Storage, Testing, and Disposal of Excavated Materials and Groundwater*** – PG&E shall ensure that excavated materials are separated into asphalt, concrete, debris, and soil. Soils and any potentially contaminated materials shall be hauled to one of the excavated materials storage areas located near the Potrero Switchyard. Each material shall be placed on plastic sheeting, moistened to control dust, and covered in a manner to prevent runoff of turbid or contaminated stormwater. Analyses to determine the presence of hazardous materials in material to be disposed of shall be performed by EPA certified laboratories to comply with the requirements of the receiving landfill. PG&E shall ensure that all contaminated soils are disposed of at either a Class I or Class II landfill, depending on the extent of hazardous materials contamination in the soils. Laboratory test reports shall be used to determine the proper handling, transport, and disposal methods. If groundwater is encountered in the excavation trenches, it shall be contained in Baker tanks and tested for turbidity and potential contaminants prior to being disposed of in accordance with local regulations. Non-contaminated groundwater shall be released to the stormwater conveyance system (with prior approval). All handling and disposal of hazardous materials and wastes shall be done in compliance with applicable regulatory requirements including, but not limited to, those administered by U.S. EPA, BAAQMD, Department of Toxic Substances Control (DTSC), SF Bay Regional Water Quality Control Board, and Cal OSHA

CHECKLIST IMPACT CONCLUSIONS

- a) During grading and construction activities, it is anticipated that limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, paints, etc. could be brought into staging areas. Temporary bulk above-ground storage tanks and 55-gallon drums could be used by contractors for fueling and maintenance purposes. Contractors could also use sheds/trailers as temporary storage areas for these substances. As with any liquid and solid, during handling and transfer from one container to another, the potential for an accidental release exists. Depending on the relative hazard of the material, if a spill were to occur of significant quantity, the accidental release could pose a hazard to construction workers, the public, as well as the environment.

Implementation of **Mitigation Measure HAZ-1a** would reduce this impact to a less than significant level.

- b,c) Encountering contaminated soil, surface water, and groundwater without taking proper precautions could result in the exposure of construction workers and consequently result in associated significant adverse human health and environmental impacts. As discussed in the setting section, the potential for encountering contaminated soil and groundwater could come from sites located adjacent to and within the vicinity of the proposed project route where the 115 kV cable line would be installed that have experienced a release of hazardous materials or petroleum products (refer to Table 2.7-2 and Figure 2.7-1).

Fill material located in the project area is known to be contaminated due in part to results from past implementation of the Maher Ordinance requirements which includes analysis of soil samples for specific inorganic and organic chemicals for development projects. The proposed project, which includes installation of approximately 2.5 miles of cable, would be constructed beneath Illinois Street, 23rd Street, Tennessee Street, 25th Street, Minnesota Street, Cesar Chavez Street, Marin Street, and Evans Avenue; resulting in approximately 10,000 cubic yards of excavated material. If suitable, most of this material would be used as thermal backfill with the remainder requiring analytical testing, transportation, storage, and disposal. Additionally, a few hundred cubic yards of soil, which would be managed separately, would be excavated in the Hunters Point Switchyard and the Potrero Switchyard for conduit installation and foundation construction.

There are three schools located within one-half mile of the proposed project site: Malcolm X Academy Elementary School (1,500 feet southwest); Davis Middle School (1,700 feet southwest); and Webster Elementary School (2,600 feet west). The California Department of Education (CDE) has established limits for the location of school sites near high-voltage power lines. The electric and magnetic field concentrations from the proposed 115 kV cable line would not impact the nearby schools due to their distances from the proposed project route. Since significant quantities of volatile hazardous materials would not be used during construction, there would be no impact to these schools. If volatile organic compounds are encountered in excavated materials, they would be managed to minimize releases to the environment. The impacts from dust generated as a result of construction activities are discussed in Section 2.03, *Air Quality*.

Implementation of **Mitigation Measures HAZ-1b** would reduce impacts to a less than significant level.

- d) As discussed above, a majority of the proposed project site is located within an area of San Francisco that is considered to be contaminated from fill material placed in the bay area to expand developable acreage. The fill material is known to be contaminated due to past construction projects. In addition, several contaminated sites have been identified along the proposed project route. Refer to item b) above.

- e) There are no public airports located within 2 miles of the project area. The proposed project would involve the installation of underground electric cable and conduit. There would be no structures that would impair airport operations. There would be no airport safety hazards associated with project construction or operation.
- f) There are no known private airports located within 2 miles of the project area. Accordingly, there should be no airport safety hazards associated with project construction or operation.
- g) The proposed project would involve the operation of heavy machinery during installation activities, and emergency response times may be affected during that time. Emergency access would be regulated as a condition of road encroachment permits by the applicable regulatory agency. Also, as discussed in Section 2.15, *Transportation and Traffic*, a traffic management plan shall be prepared as a part of the mitigation strategy of the proposed project to reduce impacts on traffic and emergency response vehicles and plans to a less-than-significant level.
- h) The proposed project would not be constructed near wildlands, so there would be no potential to expose people or structures to wildland fires.

REFERENCES – Hazards and Hazardous Materials

- ATI Architects and Engineers, 2004. Draft Electric and Magnetic Field Hazard Technical Memorandum. PG&E Potrero to Hunters Point 115 kV Cable Project. Document Number E2105-MEM-002-RV1. June 25, 2004.
- Best Best and Kreiger LLP., 2004. Memorandum providing comment on the Draft Initial Study Potrero to Hunters Point 115 kV Cable Project, Application A-03-12-039. September 10, 2004.
- Environmental Data Resources, 2004. Database Search Report. PG&E Potrero to Hunters Pt. 115 kV Cable Project, San Francisco, CA. Inquiry Number 01211725.1r. June 15, 2004.
- Essex Environmental, 2003. *PG&E Potrero to Hunters Point 115 kV Cable Project. Proponent's Environmental Assessment*. December 2003.
- PG&E, 2004. Personal communication between Cynthia Wren (ESA) and Bob Bonderud (PG&E) regarding EMF levels. October 6, 2004.

2.8 HYDROLOGY AND WATER QUALITY

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
HYDROLOGY AND WATER QUALITY— Would the proposed project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion of siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation of seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING

INTRODUCTION

The proposed project would be located within the San Francisco Bay Hydrologic Basin in California. The proposed project route is in a heavily urbanized area in the city of San Francisco with few drainages. The average precipitation in the area is approximately 20 inches per year (Western Region Climate Center, 2003). The topography of the area varies from generally flat to steep areas around Potrero Hill. Elevations in the general area range from roughly sea level to 200 feet above mean sea level. The elevation varies approximately 25 feet over the proposed project route. The overall groundwater gradient generally flows from the higher elevations of Potrero Hill and Hunters Point to the lower flatter area of the Islais Creek Channel and eventually to the San Francisco Bay. The Islais Creek Channel flows eastward approximately through the center of the project area from under Interstate 280 to the San Francisco Bay (USGS, 2004). Local water features include the San Francisco Bay and the Islais Creek Channel. The San Francisco Bay is located less than 1,000 feet from the project area at either end of the route.

SAN FRANCISCO BAY

The San Francisco Bay (Bay) estuarine system conveys the waters of the Sacramento and San Joaquin rivers into the Pacific Ocean. Located on the central coast of California, the Bay system functions as the only drainage outlet for waters of the Central Valley (Regional Water Quality Control Board [RWQCB], 1995). The Bay supports estuarine habitat, industrial service supply, and navigation in addition to all of the uses supported by the streams flowing into the Bay (Essex Environmental, 2003).

San Francisco Bay is relatively shallow and subject to high rates of sediment input, transport, and redeposition. About 40 percent of the Bay is less than 6 feet deep and about 70 percent is less than 16 feet deep (City of San Francisco, 1994).

LOCAL WATER FEATURES

Surface water bodies that could potentially be affected by the proposed project include creeks and drainages surrounding San Francisco Bay over or beneath which the proposed 115 kV cable line would be installed. In the case of the proposed project route, the closest local water body is the Islais Creek Channel.

Islais Creek Channel

Islais Creek is a tidal inlet between Pier 80 and Pier 90. Historically, Islais Creek was the confluence of several forks (one of which is extant in Glen Canyon) that carried runoff from the southeastern portion of San Francisco and entered the San Francisco Bay just west of the western end of the existing tidal inlet (City of San Francisco, 1994).

Alterations to the drainage system resulted in the culverting of Islais Creek and channeling most of the stream flow into the City's combined sewer/storm drain system, which includes a series of outfalls at the tidal inlet (City of San Francisco, 1994). The creek is the natural drainage outlet for a basin that occupies nearly 5,000 acres (Essex Environmental, 2003) and is approximately 4,800 feet long and varies in width from 325 feet at the head on the western end to 650 feet at the mouth at the eastern end. The average depth is approximately 25 feet (City of San Francisco, 1994). Islais Creek has been completely paved over west of the northbound I-280. Portions of the former creek flow through underground piping that is used for local storm water and sewage conveyance (Essex Environmental, 2003).

PRECIPITATION AND INFILTRATION

The climate in the project area is considered semi-arid Mediterranean, characterized by dry, mild summers and moderately moist, cool winters. Most precipitation falls as rain in the winter and spring, with an average annual precipitation of 18 to 20 inches (Essex Environmental, 2003).

Regional development has played a main role in increasing both the amount of impervious surfaces and the rates of runoff. Surface water flows to the storm drains, which direct the water through the Islais Creek Transport and Storage System to the Southeast Water Pollution Control Plant (WPCP) where it is then treated (Essex Environmental, 2003). The WPCP is located near Third Street and Jerrold Avenue and treats wastewater from the eastern side of the City of San Francisco (San Francisco Public Utilities Commission [SFPUC], 2004). Leakage from the combined storm water/sewer water conveyance system may impact groundwater levels at some locations. Additionally, infiltration of the San Francisco Bay waters occur at some sewer outfalls, where gates and valves intended to prevent infiltration periodically malfunction and allow saltwater to enter the sewer system (Essex Environmental, 2003).

STORM WATER MANAGEMENT

According to a review of the San Francisco Bureau of Engineering Hydraulic section (Essex Environmental, 2003), storm water runoff and sanitary sewage in the Islais Creek Transport and Storage System are conveyed together via Selby Street (from the southwest) and Marin Street (from the north) conveyance systems to the Southeast WPCP. During peak runoff, the capacity of the WPCP could be exceeded and excess runoff is routed around the WPCP via two underground pipes to the Islais Creek Channel (Essex Environmental, 2003).

FLOOD AND INUNDATION POTENTIAL

The City of San Francisco does not participate in the Federal Emergency Management Agency's (FEMA) floodplain identification program (National Flood Insurance Program [NFIP]) and no floodplains have been identified within San Francisco (Essex Environmental, 2003). However the low elevation and proximity to San Francisco Bay makes the project area subject to flooding in the unlikely event of a major tsunami (Essex Environmental, 2003).

GROUNDWATER QUALITY AND USE

Portions of the proposed project reside over the Islais Valley Groundwater Basin. The aerial extent, depth, storage capacity, and yield of this groundwater basin are unknown. Existing uses of the water in the basin, as listed by the RWQCB, include industrial processing and service. No known uses of groundwater have been identified; however, potential future uses have been identified for only non-potable uses due to the historic industrial development, high salinity, and density of contaminated sites (Essex Environmental, 2003).

Groundwater is expected to occur at depths between 5 and 15 feet below ground surface, with the shallowest water table near Islais Creek and San Francisco Bay. Near the Bay, groundwater levels may be tidally influenced; however, it generally flows east toward the Bay (Essex Environmental, 2003).

Leakage from the combined storm water/sewer water conveyance system has contributed to the poor water quality (salinity and fecal coliform levels) of shallow groundwater in the area. Additionally, infiltration of Bay waters occurs at some sewer outfalls, where gates and valves intended to prevent infiltration periodically malfunction and allow saltwater to enter the sewer system (Essex Environmental, 2003).

The project area has been impacted by historic industrial use (nearby hazardous material release sites, landfills, fill from various industrial locations), and contaminated groundwater has been documented at several nearby locations (see Section 2.7, *Hazards and Hazardous Materials*).

REGULATORY CONTEXT

This section describes federal, state, and local regulatory framework that governs hydrology and water quality.

FEDERAL

Under the federal Clean Water Act (CWA) of 1972, the U.S. Environmental Protection Agency (U.S. EPA) established the National Permit Discharge Elimination System (NPDES) program to protect water quality of receiving waters. Discharge of pollutants to receiving water bodies is required to be in compliance with the NPDES permit. Discharge of municipal and industrial wastewater as well as storm water is regulated under the NPDES permit requirements. The NPDES permit lists discharge prohibitions, effluent limitations, and other provisions or monitoring programs deemed necessary to protect water quality.

Under Section 303(d) of the Clean Water Act, states, territories and authorized tribes are required to develop lists of impaired waters. Impaired waters are waters that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for water on the lists and develop action plans to improve water quality. This process includes development of Total Maximum Daily Loads (TMDL) that set discharge limits for non-point

source pollutants. The Ducheny Bill (AB 1740), passed June 30, 2000, requires the State Water Resources Control Board and its nine Regional Water Quality Control Boards to post this list and to provide an estimated completion date for each TMDL (SWRCB, 2003). The list is administered by the Regional Board, in this case, San Francisco Bay Regional Water Quality Control Board.

Islais Creek is included on the 2002 California 303(d) List for Impaired Water Bodies (RWQCB, 2003b) for ammonia, chlordane, dieldrin, endosulfan sulfate, hydrogen sulfide, petroleum aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) from industrial point sources and combined sewer overflow (RWQCB, 2003b).

STATE

In California, the U.S. EPA has delegated the implementation and enforcement of the NPDES program to the State Water Resources Control Board (SWRCB) and the California Regional Water Quality Control Boards (RWQCBs). The SWRCB shares authority for implementation of the federal CWA and the state Porter-Cologne Act with the RWQCBs (RWQCB, 1995).

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) regulates water quality in California and authorizes SWRCB and nine RWQCBs with implementation and enforcement of the regulations. The project area is regulated under the jurisdiction of the San Francisco Bay RWQCB.

REGIONAL

The water quality in the project area is under the jurisdiction of the San Francisco Bay RWQCB (Region 9). The RWQCB is responsible for protecting the beneficial uses of water resources in the Bay. The RWQCB adopted a Water Quality Control Plan (Basin Plan) in June 1995 and amended it in 2000. The Basin Plan sets forth implementation policies, goals, and water management practices in accordance with the Porter-Cologne Water Quality Control Act. The Basin Plan establishes both numerical and narrative standards and objectives for water quality specific to the Bay Area aimed at protecting aquatic resources. Discharges to the surface waters in the region are subject to the regulatory standards in the Basin Plan.

Construction Activity Permitting

The RWQCB administers the NPDES storm water-permitting program in the San Francisco Bay region. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The General Construction Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is prepared before construction begins. The SWPPP must include specifications for Best Management Practices (BMPs) that would be implemented during construction of the proposed project to control degradation of surface water by preventing the potential erosion of sediments or discharge of pollutants from the construction area. The General Construction Permit program

was established by the RWQCB for the specific purpose of reducing impacts to surface waters that may occur due to construction activities. BMPs have been established by the RWQCB in the California Storm Water Best Management Practice Handbook (2003), and are recognized as effectively reducing degradation of surface waters to an acceptable level. Additionally, the SWPPP must describe measures to prevent or control runoff degradation after construction is complete, and identify a plan to inspect and maintain project elements.

Dewatering

Dewatering operations during excavation activities are regulated under State requirements for storm water pollution prevention and control. Discharge of non-storm water from a trench or excavation that contains sediments or other pollutants to sanitary sewer, storm drain systems, creek bed (even if dry), or receiving waters is prohibited. The RWQCB lists non-storm water discharge controls specifically for dewatering operations (RWQCB, 2003b). These control measures would be implemented by PG&E during construction activities in the project area during dewatering. Discharge of water resulting from dewatering operations would require an NPDES Permit, or a waiver (exemption) from the San Francisco Bay RWQCB, which would establish discharge limitations for specific chemicals, if present.

LOCAL

The Water Supply and Treatment Division of the San Francisco Public Utilities Commission (SFPUC) has the primary responsibility of storage, maintenance, quality control, and distribution of local drinking water supplies. The Division maintains and operates pipelines and several drinking water storage reservoirs that form the Hetch Hetchy water supply system throughout northern and central California.

The San Francisco Bureau of Engineering, Hydraulics Section manages storm water in the project area. Surface and groundwater quality in San Francisco is managed by the RWQCB (Essex Environmental, 2003). The existing storm water conveyance system would not be affected by the proposed project since the proposed project would result in negligible change in the drainage pattern or storm water runoff. See the discussion of impacts (d) and (e) below.

IMPACTS DISCUSSION OF HYDROLOGY AND WATER QUALITY

METHODOLOGY AND SIGNIFICANCE CRITERIA

The analyses of the potential intensity of impacts to hydrology and water quality included a review of available information, such as maps and published reports, that characterize the project area. Site specific surveys were not conducted by specialists to determine the water quality for the project area. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the revised CEQA guidelines. These guidelines are summarized in the checklist provided at the beginning of this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This section discusses the impacts that would result from construction and operation of the proposed project on hydrology and water quality. The potential hydrology and water quality impacts are expected to result primarily from construction activities associated with the proposed project. Operation and maintenance of the 115 kV cable line would include minimal routine maintenance that would not adversely affect hydrology or water quality in the project area.

Impact HYD-1: The proposed project could result in adverse impacts to groundwater quality. This would be a less than significant impact with implementation of Mitigation Measure HYD-1.

Construction of the proposed project could potentially result in storm water runoff or storm water pollution as well as ground water impacts from trenching. Soils generated during construction would be stored temporarily on the project site and appropriate BMPs would be implemented to prevent runoff from the stockpiles. To minimize the exposure of sediments to runoff, PG&E would ensure that all trenches were backfilled or properly covered at the end of each workday. In cases where backfilling is not feasible, appropriate erosion control features would be implemented. Therefore, the proposed project would not violate any water quality standards or waste discharge requirements that would result in a less than significant impact.

If the construction were to continue beyond one year, PG&E would be required to submit an annual report to the RWQCB at the end of each construction year, describing the performance of the prescribed BMPs and measures to correct BMPs that failed. Upon completion of the proposed project, PG&E would be required to submit a Notice of Termination to the RWQCB to indicate that all phases of construction are complete. Implementation of the plan starts with the commencement of construction and continues through the completion of the proposed project. The SWPPP may include, but is not limited to description of construction materials, practices, and equipment storage and maintenance, a list of pollutants likely to contact storm water, estimate of the construction site area and percent impervious area, site specific erosion and sedimentation control measures, list of provisions to eliminate or reduce discharge of materials to storm water, and BMPs for fuel and equipment storage.

All hydrology and water quality impacts would be less than significant with implementation of identified mitigation measures HYD-1. There would be no change in existing operations and maintenance activities, which are currently in compliance with water quality regulations (Essex Environmental, 2003).

Mitigation Measure HYD-1: After installation of the duct bank, it shall be surrounded with an approved backfill or a fluidized thermal backfill consisting of a blend of sand, gravel, fly ash, and cement above the duct bank. Because the permeability of these materials may be low, a section of drainpipe shall be laid across the trench directly above the sections of the duct bank where concrete backfill has been used at approximately 100-foot intervals to allow groundwater to pass through these materials. Alternatively, gravel drains or other drainage measures may be installed across the cable line.

CHECKLIST IMPACT CONCLUSIONS

- a) Proposed project construction could potentially result in localized increased sedimentation and reduced surface water quality. Surface runoff from excavation stockpiles could contain turbid water and sediment if stockpiles are not properly managed. However, since the proposed project is not located on sloped terrain, or adjacent to surface waterways, sedimentation would be controlled using standard engineering and construction practices. Materials removed from excavation would be stored on one of PG&E's construction yards or easements. As a part of the proposed project design, there would be no in-channel work in Islais Creek and construction best management practices would be implemented to minimize sediment transport to the creek. Construction of the proposed project would require the use of motorized heavy equipment, including trucks, cranes, backhoes, and air compressors. This equipment requires fuel and liquid replenishment in the form of gasoline, diesel, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and other fluids. Surface water and/or groundwater quality could be impacted by an accidental release from a vehicle or motorized piece of equipment or by a release during concrete preparation or pouring for placement of backfill around the duct bank. Such spills could wash into nearby storm drains or infiltrate the soil and violate water quality standards or discharge requirements. However, the volume of material would be small. Implementation of standard construction procedures and precautions as discussed in Section 2.07, *Hazards and Hazardous Materials* would ensure that impacts from construction of the proposed project would be less than significant.

Shallow groundwater in the vicinity of the project area has high levels of total dissolved solids, turbidity, hardness, and can contain high salts concentrations. In general, the water quality in the area is non-potable and can damage pipes and pump equipment. Further, the groundwater recharges relatively rapidly. As a result, dewatering operations necessary for the proposed project would have a temporary effect, if any, on the localized drawdown of water level. Water levels are expected to recover over a short period of time following cessation of dewatering. The magnitude of dewatering proposed for the proposed project would not be long term; therefore the impacts would be minimal. Disposal of groundwater from dewatering would be performed in accordance with RWQCB requirements. Dewatered water would be discharged or collected and disposed of off-site in accordance with all applicable laws and regulations. If dewatered water is to be discharged to adjacent surface waterways, PG&E would obtain a permit from appropriate regulatory agencies.

For the reasons state above, the proposed project would result in less than significant impacts to water quality standards or waste discharge requirements.

- b) Although the water table is expected to be below the depth of the trench, some seepage of infiltration water (e.g., leakage from the storm water conveyance system) could occur in the trench. If water accumulates in the trench during project construction, active and/or passive dewatering systems may be installed to allow construction to be completed under dry conditions. Dewatering activities may impact local groundwater levels during construction of the proposed project. The majority of groundwater beneath the city of San Francisco has overall poor quality due to the shallow depth of the water table, surface contaminants that

migrate to the water table, and salt water intrusion. Water quality along the bay margin is also of poor quality due the presence of artificial fill overlying bay mud. For these reasons, the city of San Francisco does not consider shallow groundwater a beneficial source of potable water. Additionally, groundwater dewatering would temporarily lower the groundwater levels in the immediate area. The proposed project would therefore not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Thus, the impact would be less than significant.

- c) Ground disturbance caused by the proposed project would be limited to trenching activities between the Potrero and Hunters Point switchyards and small excavations associated with foundation construction for new structures at the switchyards. Neither switchyard would be expanded beyond the existing fence line for the modifications. There would be no ground disturbance at the two excavated materials storage and staging areas located near the switchyards. All ground disturbing activities would occur in previously disturbed areas. With the exception of a few small concrete footings in the switchyards, impervious surface material would not be installed over areas that are presently uncovered. Outside of the switchyards, all ground disturbing activities would be conducted in existing paved roadways, a parking lot, and a vacant lot. As a result, no new sources of runoff are expected, and there would be no impact to existing drainage patterns or surface runoff rates.
- d) Because the proposed project would not alter existing drainage patterns through the alteration of a stream course no impacts would be expected to occur.
- e) The proposed project would not create or contribute substantial runoff to the drainage system. As discussed in a) above, construction of the proposed project could potentially result in localized accelerated sedimentation and reduced surface water quality. Surface runoff from excavation stockpiles could contain turbid water and sediment. PG&E would be required to develop and implement a SWPPP, as required by the SWRCB and enforced by the San Francisco Bay RWQCB, because the proposed project would disturb over one acre of soil. The objectives of the SWPPP are to identify pollutant sources that may affect the quality of storm water discharge, to implement control practices to reduce pollutants in storm water discharges, and to protect receiving water quality. PG&E must submit a Notice of Intent to the RWQCB prior to the start of construction and maintain a copy of the SWPPP at the job site at all times.

Implementation of the SWPPP, as would be required by the San Francisco Bay RWQCB, would ensure that the potential water quality impacts associated with the proposed construction remain less than significant.

- f) Construction of the proposed 115 kV cable line would require trenching, installation of the cable line, junction boxes, and backfilling. Since the water table is expected to be deeper than the trench at most locations, low permeability trench backfill material is not expected to create a new barrier to groundwater flow. The maximum open trench length would be approximately 150 to 300 feet on each street. If the trench were extended below the water table, it could potentially limit groundwater flow. If a highly permeable backfill is used, it

could create a preferential pathway for groundwater, Bay water intrusion, or for the migration of existing subsurface contamination, which could potentially result in a significant impact.

- g) The proposed project would not alter existing drainage patterns; therefore, it would not increase the rate or amount of runoff. The proposed project is not expected to cause flooding on- or off-site. The proposed project would not involve the construction of structures that could impede or redirect flows and therefore, no flooding would occur. Since no housing would be constructed as part of the proposed project, no residences would be placed within a 100-year flood hazard area. In addition, the proposed project would not expose people or structures to a significant risk of loss, injury, or death due to flooding. Therefore, there would be no impact.
- h) The National Flood Insurance Program (NFIP) designates flood prone areas. There are no areas prone to surface flooding in San Francisco (City of San Francisco, 1997) and therefore, no impact would be expected.
- i) The potential for inundation by a tsunami and/or a mudflow exists in the project area. However, since the proposed project is primarily underground and involves only a few aboveground structures, it would not expose the proposed project to the associated hazards. Further, the proposed project would not expose people or structures to the risk of loss, injury, or death involving flooding and therefore would result in no impact.
- j) Due to the low elevation and proximity to San Francisco Bay, the project area would be subject to flooding in the unlikely event of a major tsunami; however, because of the low likelihood of this occurring, this is considered a less than significant impact.

REFERENCES – Hydrology and Water Quality

- California Regional Water Quality Control Board, 1995. *San Francisco Bay Region Water Quality Control Plan*.
- City of San Francisco Planning Department, 1997. *An Element of the Master Plan of the City of San Francisco*.
- Essex Environmental, 2003. *PG&E Potrero to Hunters Point 115 kV Cable Project Proponents Environmental Assessment*. December 2003.
- San Francisco Public Utilities Commission (SFPUC), 2004.
http://sfwater.org/orgDetail.cfm/MO_ID/48 accessed June 20, 2004.
- San Francisco Bay Regional Water Quality Control Board, 2003a. BMP 3-01: Non-Storm Water Discharge Control. Dewatering Operations. Attachment 6 to Water Quality Order 2003-0007-DWQ.

San Francisco Bay RWQCB, 2003b, 2002. CWA Section 303(d) List of Water Quality Limited Segment, <http://www.swrcb.ca.gov/tmdl/docs/2002reg2303dlist.pdf>. Approved by U.S. EPA July 2003.

U.S. Geologic Survey (USGS), 2004. Topographic Quadrant, San Francisco North and South Quadrants, accessed June 20, 2004.

Western Region Climate Center (WRCC), 2003. Comparative Data for the Western States. <http://www.wrcc.dri.edu/COMPARATIVE.html> accessed June 20, 2004.

2.9 LAND USE, PLANS, AND POLICIES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
LAND USE, PLANS, AND POLICIES— Would the proposed project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

EXISTING LAND USES

The 2.5-mile-long route of the proposed 115 kV cable line passes through areas that are generally light industrial in nature. Uses along the route include warehouses, transportation and service-related businesses, offices, wholesaling enterprises, a commercial bakery, scrap metal and auto dismantling yards, a neighborhood-serving retail center, and various public facilities, including the City's primary wastewater treatment plant and a Municipal Railway (Muni) yard.

The proposed project route begins on Illinois Street between 22nd and 23rd Streets at the PG&E Potrero Switchyard, adjacent to the Potrero Power Plant, formerly operated by PG&E and now run by Mirant Corp. Across Illinois Street from the Switchyard is a large building that historically was a can manufacturing plant (American Can Company) and was later converted to a light industrial facility that now houses numerous artists and galleries, food-related businesses, small manufacturing, business services, and other comparable establishments. From the point of origin, the route heads south in the Illinois Street right-of-way for one block and bears west on 23rd Street, crossing Third Street, the primary north-south arterial in the area, where Muni is currently building the Third Street Light Rail line, to Tennessee Street, where the route heads south for two blocks to 25th Street, one block east to Minnesota Street, and another two blocks south to Cesar Chavez Street, between Milepost (MP) 0.6 and MP 0.7. The route stays within street rights-of-way for the entire length between 23rd and Cesar Chavez Streets. Land uses in this area primarily consist of light industrial and warehousing uses, although there are some newer loft-style dwellings in multi-story buildings, as well as some office uses. Specifically, there is a residential building located on Minnesota Street between 25th and 26th Streets. The nearest residential area to this northern portion of the proposed 115 kV cable route is in the "Dogpatch" neighborhood, along Third and Tennessee Streets near 22nd Street, about one-half

block north of the proposed route.¹ Esprit Park, located at 20th and Minnesota Streets, about five blocks (1/3 mile) from the proposed project route's point of origin, is located in relatively close proximity to this portion of the proposed route.

From Minnesota and Cesar Chavez Streets, the proposed project route proceeds west on Cesar Chavez, within the right-of-way, for approximately 1/4 mile, passing beneath the elevated I-280 freeway and the elevated Caltrain railroad tracks. The route passes additional new loft-style residences, a self-storage yard, and light industrial uses and within a block of a Muni bus yard before turning south off of Cesar Chavez Street, passing through a vacant lot owned by the City and the parking lot of the San Francisco Chronicle printing plant. These two parcels, which skirt the westerly extent of the Islais Creek basin, the remnant of a historic drainage that once flowed from the center of the City to the Bay, are the only portion of the proposed project route that is not within a public right-of-way. Once through the parking lot, the proposed route proceeds west in the Marin Street right-of-way and then turns south on Evans Avenue for a short distance, passing a self-storage facility and a restaurant supply outfit, then follows Evans Avenue when it turns southeast at Napoleon Street, remaining on Evans Avenue, entirely within the right-of-way, for nearly another 1.5 miles terminating in the Hunters Point Switchyard.

Entering this long stretch of Evans Avenue, the route passes near a U.S. Post Office carrier facility and a school bus yard, both one-half block west on Napoleon Street. The route also passes a restaurant, a Federal Express distribution center, and a large French bread bakery (Parisian) before crossing beneath the Caltrain tracks and I-280 again near Selby Street. The portion of Evans Avenue between Selby Street and Third Street is occupied by several auto dismantlers and a large metal recycling yard (scrap yard); this is the most heavily industrialized portion of the route, and the four-lane Evans Avenue carries extensive heavy truck traffic. A City wastewater pumping station that handles discharge of treated wastewater into Islais Creek is located one block to the north. Once past the scrap yard, the proposed project route crosses a rail spur track that links the Port of San Francisco with the Union Pacific main line into the city, and then passes alongside the Southeast Water Pollution Control Plant, which occupies several city blocks along the south side of Evans Avenue.

East of Third Street, the India Basin Industrial Park, a San Francisco Redevelopment Agency project, occupies several blocks on the north side of Evans Avenue, which includes the main U.S. Post Office mail sorting facility in San Francisco, just west of the Hunters Point Power Plant. On the south side of Third Street, Bayview Plaza, a retail center, anchors the southeast corner of Third Street and Evans Avenue. Facing the India Basin Industrial Park, several light industrial and office uses line the south side of Third Street. Youngblood Coleman Playground, a City of San Francisco Recreation and Park Department playground, is just over a block south of Evans Avenue at Mendell Street, and there are single-family and multi-family residential uses just south of the park on the northern slope of Hunters Point Hill. Further east, multi-family residences of San Francisco Housing Authority properties nearly abut the Hunters Point Power

¹ Around 23rd and Tennessee Streets, there is currently a collection of lived-in vehicles, one of the clusters of such non-permanently housed residents who congregate in generally industrial locations in San Francisco for periods of time, generally until police are summoned by residents or business owners to relocate the vehicles.

Plant parcel, across Evans Avenue from the Hunters Point Switchyard, about one block south of Evans Avenue. This parcel once contained fuel oil tanks that provided fuel oil to the power plant and which have been removed. Two other parks are located less than 1/4 mile from the Hunters Point Switchyard: India Basin Shoreline Park to the southeast, and Heron's Head Park to the northeast.

The proposed project route terminates at the Hunters Point Switchyard near MP 2.5. The route is within City streets for about 2.4 miles of its 2.5-mile length.

SOCIOECONOMIC DATA

San Francisco Supervisorial District 10, through which the proposed project route would pass, ranks 9th in per capita income of the 11 districts within the city. The population consists of roughly similar percentages of Asian, Black/African American, and White residents (between 26 and 30 percent each); 19 percent of residents are Hispanic or Latino (City of San Francisco, 2002). For the five census tracts that the proposed project route would traverse or be adjacent to, the Black population is nearly two-thirds (64 percent) of the total and the total minority population is in excess of 90 percent. This compares to a citywide Black population of 8 percent and a total citywide non-white population of 50 percent. Per-capita income (1999) in the five tracts was \$17,200, half the citywide average of \$34,550 (U.S. Census Bureau, 2000).

REGULATORY CONTEXT

CALIFORNIA PUBLIC UTILITIES COMMISSION

The California Public Utilities Commission (CPUC) has primary jurisdiction over the proposed project by virtue of its approval authority over construction, operation, and maintenance of public utility facilities. CPUC Decision (D.) 95-08-038 reiterates that local governments have no authority to approve utility power transmission line or substation projects.² Even though local jurisdictions do not have discretionary authority over utility projects, as a practical matter, the CPUC attempts to address affected local jurisdictions' plans and policies in its environmental review documents. The CPUC's approval for utility-proposed projects generally includes provisions that require the utilities to consult with local agencies regarding land use matters and obtain all necessary local and state permits and approvals.³ Nevertheless, pursuant to General Order (GO) 131-D, the CPUC retains exclusive jurisdiction over the regulation of electric power line projects, distribution lines, substations, or electric facilities constructed by regulated public utilities. Pursuant to GO 131-D, the CPUC shall resolve any differences that arise between the utilities and local agencies regarding these issues. As part of the environmental review process, the CPUC has considered relevant City land use plans, policies, and issues and prepared this evaluation of the project's potential impacts to land use and planning.

² See also D. 94-06-014, p. 12.

³ General Order 131-D, Section III.C, requires "the utility to communicate with, and obtain the input of, local authorities regarding land use matters and obtain any non-discretionary local permits...."

LOCAL PLANS AND POLICIES

The proposed project lies entirely within San Francisco. No more than 0.2 miles of the proposed project route is outside existing roadway rights-of-way. A portion of the proposed project route (about 0.7 miles) is on property where the Port of San Francisco has an underlying fee interest. This includes portions of Illinois Street, 23rd Street, Tennessee Street, and Evans Avenue.

San Francisco General Plan

Although the proposed project is not subject to local plans and policies, project consistency with the San Francisco General Plan was analyzed, consistent with GO 131-D. The General Plan contains general policies and objectives to guide land use decisions and contains some policies that relate to physical environmental issues. The General Plan contains 10 elements, including Air Quality, Arts, Commerce and Industry, Community Facility, Community Safety, Environmental Protection, Recreation and Open Space, Residence, Transportation, and Urban Design. The General Plan also contains 10 Area Plans that set specific policies and guidelines for certain neighborhoods in San Francisco. The project area is located within the boundaries of two of these area plans: the Central Waterfront Plan and the South Bayshore Plan.

The General Plan does not contain a discrete Land Use Element. Rather, policies regarding land use are found in various elements throughout the Plan. Although the Plan does not contain a map of allowable uses, the “Generalized Residential Land Use Plan” (Map 2 in the Residence Element) identifies the project area as “Mixed Use, Predominantly Commercial/Industrial.” Residential areas are identified northwest of the Potrero Switchyard (Dogpatch) and south and west of the Hunters Point Switchyard (south of Youngblood Coleman Playground and on Hunters Point Hill).

Central Waterfront Plan

The Central Waterfront Plan, most recently amended in 1997, covers the portion of the project area north of Islais Creek and west of I-280. The Central Waterfront Plan, which does not map permitted land uses, is divided into six subareas, two of which (Central Basin and Islais Creek) include portions of the project area. The Plan contains the following general objectives and policies:

- Objective 1: Strengthen and expand land uses essential to realizing the economic potential of the subareas.
- Policy 2.3: Improve, expand, and develop recreational areas at established public access points along the waterfront enabling public use and enjoyment of the shoreline.

China Basin Subarea.

- Objective 15: Maintain and expand maritime activity in the Central Basin subarea.
- Objective 16: Retain and expand industrial uses.

- Policy 16.2: Assure that any power plant expansion on the Pacific Gas and Electric Company site [now the Mirant Corp. Potrero Power Plant site] will provide additional employment and will not adversely affect the environment.
- Objective 17: Improve and expand waterfront recreation.

Islais Creek Subarea.

- Objective 19: Expand maritime activity and ancillary services.
- Objective 20: Develop waterfront recreational uses along the shoreline of Islais Creek channel.
- Objective 21: Retain and expand industrial uses in the Islais Creek area.

South Bayshore Plan

The South Bayshore Plan, most recently amended in 1997, covers the area south of Islais Creek Channel and Cesar Chavez Street and west to Bayshore Boulevard. It has seven subareas, two of which, the Northern Industrial Area and India Basin Industrial Area, include portions of the proposed project route. The South Bayshore Plan contains a Generalized Land Use and Density Plan (Figure 3)⁴ that identifies the proposed project route as being within Heavy Industrial areas. The South Bayshore Plan identifies residential uses described above south of Youngblood Coleman Playground and on Hunters Point Hill, as well as the playground itself. The Plan contains the following objectives and policies:

- Objective 1: Stimulate business, employment, and housing growth within the existing general land use pattern by resolving conflicts between adjacent industrial and residential areas.
- Policy 1.2: Restrict toxic chemical industries and other industrial activities with significant environmental hazards from locating adjacent to or nearby existing residential areas.
- Objective 5: Preserve and enhance existing residential neighborhoods.
- Policy 8.1: Maintain industrial zones in Northern Industrial and India Basin subdistricts.
- Objective 17: Support community economic development and revitalization through energy management and alternative energy technologies.

General Plan Environmental Protection Element.

The Environmental Protection Element of the General Plan, most recently amended in 1995, contains an Energy chapter that includes numerous objectives and policies relating to increased energy efficiency use by City facilities and by residents, businesses, and transportation. The Element also contains the following objectives relevant to the proposed project:

⁴ The figure can be viewed at: <http://www.sfgov.org/site/uploadedimages/planning/egp/illus/sbayshore/figure3.gif>.

- Objective 16: Promote the use of renewable energy sources.
- Objective 17: Support federal, state and PG&E energy programs that are equitable, and encourage conservation and renewable energy use.

Project Consistency with the General Plan

The proposed project would not conflict with the Central Waterfront Plan or the South Bayshore Plan because it would not result in permanent changes in land use, disrupt existing industrial or maritime business activity, or result in any permanent adverse effects on the nearest residences or parks. As described elsewhere in this MND, the project would not “adversely affect the environment,” nor would it create “significant environmental hazards.” Regarding Policy 16.2 of the Central Waterfront Plan, the proposed project would not affect the existing Potrero Power Plant. However, it is noted that, as a separate project, the City is exploring the installation of several gas turbines adjacent to the Potrero Plant site. This process is on hold as the City, with public participation, develops a short list of recommended measures to mitigate the air quality impacts of the proposed project. Regarding Policy 17 of the South Bayshore Plan and Objectives 16 and 17 of the Environmental Protection Element, it is noted that the proposed project could help facilitate the ultimate closure of the Hunters Point Power Plant; this closure is part of the City’s energy strategy to increase the use of alternative energy sources.

San Francisco Planning Code (Zoning)

The San Francisco Planning Code, most recently amended in August 2004, incorporates by reference the City’s Zoning Maps governs permitted uses, densities, and the configuration of buildings in San Francisco. Although the proposed project is exempt from local zoning, the Planning Code was reviewed, consistent with GO 131-D.

The entire area through which the proposed project route passes is zoned M-2 (Heavy Industrial), which is the least restrictive of San Francisco’s zoning categories and provides for the widest array of permitted uses. Linear transmission facilities, such as a power line, are generally not regulated by the Planning Code. However, the M-2 District does permit various utility facilities such as a public utility service yard, utility installation, and steam power plant.

Port of San Francisco Waterfront Land Use Plan

The Port of San Francisco Waterfront Land Use Plan, adopted by the Port Commission in 1997, establishes land use policy for all property under the Port’s jurisdiction. As noted, a small part of the proposed project area is covered by the Waterfront Plan. Although the proposed project is exempt from local land use policies, the Waterfront Plan was reviewed, consistent with GO 131-D.

The Waterfront Land Use Plan anticipates an increase in both cargo and non-cargo activity in the Southern Waterfront, generally the area from Pier 70 south. The Port is currently working with the Southern Waterfront Advisory Committee and local communities in a planning effort for land located upland of the Port’s marine terminals, the so-called “Pier 90-94 Backlands.” This effort

is expected to lead to decisions regarding whether the Pier 90-94 Backlands may be available for other uses, such as further maritime and non-maritime industrial and commercial uses that could be developed in the future.

Because the proposed project would not result in any permanent disruption of either cargo activity or industrial uses, it would not result in any inconsistencies with the Waterfront Land Use Plan.

San Francisco Bay Area Seaport Plan

The San Francisco Bay Area Seaport Plan, adopted in 1996 and most recently amended in 2003, was prepared jointly by the Metropolitan Transportation Commission (MTC), the Bay Area's transportation planning agency, and the San Francisco Bay Conservation and Development Commission (BCDC), a state agency charged with regulating filling and dredging in San Francisco Bay, regulating development within the first 100 feet inland from the Bay to ensure that maximum feasible public access to the Bay is provided, and ensuring that the limited available shoreline is reserved for ports and other water-related uses. The Seaport Plan constitutes the maritime element of MTC's Regional Transportation Plan and is incorporated into BCDC's San Francisco Bay Plan, where it is the basis of the Bay Plan port policies. MTC uses the Seaport Plan to assist in making project funding decisions and managing the metropolitan transportation system and BCDC uses the Seaport Plan to help guide its regulatory decisions on permit applications, consistency determinations, and related matters.

The Seaport Plan promotes a number of goals, including ensuring the continued operation and viability of the ports on San Francisco Bay, maintaining or improving the environmental quality of the Bay, ensuring the efficient use of physical and fiscal port resources, integrating and improving port surface transportation facilities, and reserving sufficient shoreline areas to accommodate future growth in maritime cargo, thereby minimizing the need for new Bay fill. The Seaport Plan designates "Port Priority Areas" that the Plan has determined necessary for future port development and that are to be "reserved for port-related and other uses that will not impede development of the sites for port purposes." The northern and southern banks of Islais Creek east of Third Street and the area north of Cargo Way are among the Port of San Francisco lands designated Port Priority Areas. In addition, the Seaport Plan includes a policy that states, "[l]ocal, state and federal government actions, such as land use decisions, public works projects, or rail abandonment, should not impede access to the marine terminal sites identified in the Seaport Plan."

Because the proposed project would not result in any permanent disruption of cargo activity, it would not result in any inconsistencies with the Bay Area Seaport Plan.

IMPACTS DISCUSSION OF LAND USE, PLANS, AND POLICIES

METHODOLOGY AND SIGNIFICANCE CRITERIA

The conformity of the proposed project with existing or proposed land use plans and policies was the methodology used to determine land use impacts. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

In addition, the proposed project was considered to have a potential significant land use impact if it would result in a land use conflict with adjacent properties.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Because the proposed cable line would be placed underground, with all but about 0.1 miles of the proposed cable transmission route to be built within existing roadways and the remainder within a parking lot and a vacant lot, impacts would be virtually entirely construction-related. No permanent effects would occur to existing land uses, with the exception that the parking lot and the vacant lot would be subject to a maintenance easement for future repairs on the line. The vacant lot, which is adjacent to Cesar Chavez Street and is a narrow rectangle, 41 feet by 200 feet, presents limited opportunity for development because of its unusual dimensions and its location, and it is unlikely that the easement would result in substantially less potential for development on this property than presently exists. Adjacent lots with similar dimensions are currently used as storage areas.

Construction impacts would be similar to those of other in-street utility construction. The entire construction period would last approximately nine months; however, the duration of construction at any given location would be substantially less. The maximum length of an open cut in any given street would be approximately 300 feet (longer than a short city block, but less than the length of a long block). Temporarily disturbed areas would be restored after construction and, as a result, no permanent alteration of any streets or other uses would be apparent once the installation is complete, with the exception of the switchyards at either end of the route. These switchyards would be modified within their existing boundaries, however, and no permanent land use impacts would result from project modifications because uses would continue as at present. No surrounding land uses would be permanently affected by the switchyard modifications.

Commercial and residential uses located along the proposed project route, as well as adjacent side streets could be affected by noise, dust, odors, access restrictions, and increased traffic associated with project construction activities, as well as by temporary restrictions on traffic flows, such as one-way traffic control. However, no streets would be completely closed during construction. Impacts from dust and noise are described in Sections 2.3, *Air Quality* and 2.11, *Noise*. Traffic impacts and access issues are addressed in Section 2.15, *Transportation and Traffic*.

In general, project construction is anticipated to result in a minor annoyance to most residents and businesses, if they experience any effect at all; many observers may not even be aware that the project is under way. On the other hand, some residents or business people may experience project construction as another in a series of major projects that are being undertaken in the Third Street corridor. Most notably, the Third Street Light Rail Project has been under construction since early 2003 along various portions of the corridor. PG&E would coordinate with Muni to ensure that boring activities do not interfere with transit operations. No permanent conflicts would occur as a result of the proposed project because the project would be located underground and would cross perpendicular to Third Street.

In light of the above, it appears likely that project construction would not be noticeable to most persons except those directly affected by work in front of their home or business. A potential physical land use conflict could occur on Minnesota Street between 25th and 26th Streets where a residential building exists and is occupied on the east side of the street.

Impact LUP-1: Project construction could result in adverse impacts, associated with traffic congestion and noise, to adjacent residential land uses along Minnesota Street between 25th and 26th Streets. This would be a less than significant impact with implementation of Mitigation Measure LUP-1.

Mitigation Measure LUP-1: PG&E shall move the segment of the proposed project route from 25th Street between Tennessee and Minnesota Streets and Minnesota Street between 25th and Cesar Chavez Streets to instead continue down Tennessee Street from 25th Street to Cesar Chavez Streets and then travel east along Cesar Chavez Street.

Because project construction would be underground and primarily within existing roadways, a vacant lot, a parking lot, and within existing PG&E property or other disturbed areas, and because, once complete, only infrequent maintenance activity would ensue, the project would not physically divide an established community. As a result, the proposed project would not result in a significant land use effect.

Although the proposed project route traverses an area that is more economically disadvantaged and with a substantially larger percentage of minority population than is the case for San Francisco as a whole, the overall lack of physical environmental impacts that would be attributable to the project would greatly diminish the potential that lower-income and/or minority populations would be adversely affected by the proposed project.

There are no habitat conservation plans or natural community conservation plans applicable to the project area. Therefore, the project would not conflict with any such plan.

CHECKLIST IMPACT CONCLUSIONS

- a) An established community would not be divided under the proposed project because all impacts would be temporary and limited to the duration of construction, and because the vast majority of construction would take place within existing street rights-of-way.
- b) The proposed project would not substantially conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.
- c) There are no habitat conservation plans or natural community conservation plans applicable to the project area and, therefore, the proposed project would not conflict with any such policy.

REFERENCES – Land Use, Plans, and Policies

- Essex Environmental, 2003. *PG&E Potrero to Hunters Point 115 kV Cable Project Proponent's Environmental Assessment*. December 2003.
- San Francisco Board of Supervisors Legislative Analyst's Office. "200 Census Data by District," Follow-up to File No. 012214, November 14, 2002.
http://www.sfgov.org/site/bdsupvrs_page.asp?id=4741 accessed June 25, 2004.
- U.S. Census Bureau. Data from American Fact Finder for Census Tracts 226, 609, 231.01, 231.02, and 231.03.
http://factfinder.census.gov/servlet/DTGeoSearchByListServlet?ds_name=DEC_2000_SF3_U&_lang=en&_ts=106234719205 accessed June 25, 2004.

2.10 MINERAL RESOURCES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
MINERAL RESOURCES—Would the proposed project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

The proposed project is almost entirely located within the area covered under the Maher Ordinance. The Maher Area encompasses the area of San Francisco bayward of a historic, pre-1906 Earthquake high tide line. This area of San Francisco was largely created by fill consisting primarily of debris associated with the 1906 Earthquake and Bay reclamation. Therefore, because of the nature of the area, significant mineral deposits are not present.

REGULATORY CONTEXT

The primary state law concerning conservation and development of mineral resources is the California Surface Mining and Reclamation Act (SMARA) of 1975, as amended. SMARA is found in the California Public Resources Code (PRC), Division 2, Chapter 9, Sections 2710, et. seq. SMARA was enacted in 1975 to limit new development in areas with significant mineral deposits. SMARA calls for the State Geologist to classify the lands within California based on mineral resource availability.

IMPACTS DISCUSSION OF MINERAL RESOURCES

METHODOLOGY AND SIGNIFICANCE CRITERIA

The analysis of the potential intensity of impacts to mineral resources included a review of available maps, technical publications, and other relevant publications characterizing the project area. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The project area is in an area characterized by maritime and industrial uses. The area has been mapped as primarily artificial fill, with some bedrock (serpentine) and a small amount of alluvium. A major portion of the proposed project is within the Islais Creek Basin. Prior to the late 1800s, the Islais Creek Basin consisted of a small bay and tidal marsh surrounded by hills. Since that time, the marshland and Bay have been extensively filled. Significant portions were graded by excavating rock outcrops and soil overburden and using excavated material to fill low lying areas and the Bay. The original shoreline along the south side of Islais Creek Basin was extended approximately along Evans Avenue.

CHECKLIST IMPACT CONCLUSIONS

- a) The proposed project site would be located entirely within an area designated as Mineral Resource Zone MRZ-1, which indicates that adequate information is available to determine that the area does not have significant mineral deposits (California Division of Mines and Geology, 1982). Since the project site is already developed, future evaluation or designation of this area would not affect the proposed project. Therefore, this would be a less than significant impact.
- b) There are no operational mineral resource recovery sites in the project area whose operations or accessibility would be affected by the construction and operation of the proposed project.

REFERENCES – Mineral Resources

Stinson, M. C., M. W. Manson, J. J. Plappert, and others, 1982. Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Part II, Classification of Aggregate Resource Areas South San Francisco Bay Production-Consumption Region, California Division of Mines and Geology Special Report 146.

2.11 NOISE

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
NOISE—Would the proposed project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

BACKGROUND

Noise is defined as unwanted sound. Sound, traveling in the form of waves from a source exerts a sound pressure level (referred to as sound level) which is measured in decibels, with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

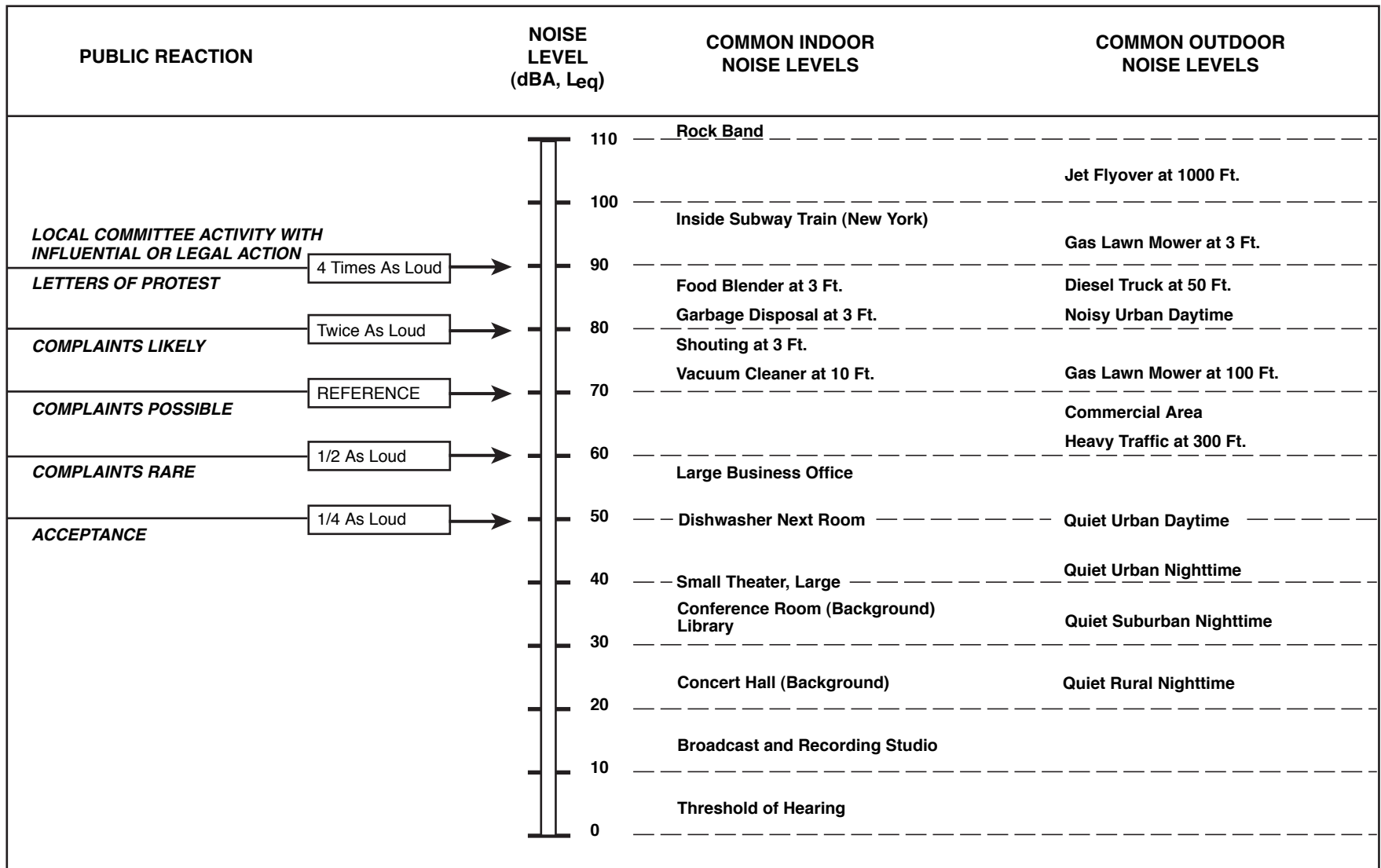
The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum (20 to 20,000 cycles/second [Hz]). As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels. Frequency A-weighting follows an international standard method of frequency de-emphasis and is typically applied to community noise measurements. In practice, the level of a sound source is

measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 2.11-1**. All of the noise levels reported herein are A-weighted unless otherwise stated.

Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels presented in **Figure 2.11-1** are representative of measured noise at a given instant in time, however, they rarely persist consistently over a long period of time. Rather, community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and continually changing atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources such as aircraft flyovers, vehicle passbys, sirens, etc., which are readily identifiable to the individual. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

- Leq: the equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The Leq is the constant sound level that would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
- Lmax: the instantaneous maximum noise level for a specified period of time.
- L10: the noise level that is equaled or exceeded 10 percent of the specified time period. The L10 is often considered the maximum noise level averaged over the specified time period.
- L90: the noise level that is equaled or exceeded 90 percent of the specified time period. The L90 is often considered the background noise level averaged over the specified time period.
- DNL (or Ldn): 24-hour day and night A-weighted noise exposure level which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noise.



SOURCE: Caltrans Transportation Laboratory Noise Manual (1982)

PG&E's Potrero to Hunters Point 115 kV Cable Project (A.03-12-039) / 204039 ■

Figure 2.11-1
Effects of Noise on People

CNEL: similar to the DNL, the Community Noise Equivalent Level adds a 5 dBA “penalty” for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10 dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance and dissatisfaction;
- Interference with activities such as speech, sleep, learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual’s past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to a baseline noise condition (typically the existing environment) to which one has adapted: the so called “ambient noise” level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise would be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dBA;
- outside of such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise;
- it is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA;
- a change in level of 5 dBA is a readily perceptible increase in noise level; and
- a 10 dBA change is recognized as twice as loud as the original source (Caltrans, 1998).

These relationships occur in part because of the logarithmic nature of sound and the decibel system. Because the decibel scale is based on logarithms two noise sources do not combine in a simple linear fashion, but rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Sensitive Receptors

Sensitive populations (i.e., children, senior citizens and acutely or chronically ill people) are more susceptible to the effects of air pollution than are the general population. Land uses where sensitive receptors are typically found include residences, schools, playgrounds childcare centers,

parks, hospitals, clinics, rehabilitation centers, convalescent homes, and retirement homes. The closest sensitive receptor identified is the residential development on 25th Street, Minnesota Street and Cesar Chavez Street.

Noise Attenuation

Stationary “point” sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions, ground conditions, and noise barriers). Widely distributed noises, such as a large industrial facility spread over many acres or a street with moving vehicles (a “line” source), would typically attenuate at a lower rate, approximately 3 to 4.5 dBA per doubling distance from the source (also dependent upon environmental conditions) (Caltrans, 1998). Noise from large construction sites would have characteristics of both “point” and “line” sources, so attenuation would probably range between about 4.5 and 7.5 dBA per doubling of distance.

EXISTING SITE CONDITIONS

Noise measurements were collected at representative locations with key noise parameters presented in **Table 2.11-1** (Essex Environmental, 2003). The San Francisco Land Use Compatibility Chart for Community Noise (San Francisco, 1999) identifies residential land uses as satisfactory when the Ldn is less than 60. In this context, satisfactory means satisfactory assuming that normal conventional construction is used in buildings. As indicated by the measurements, existing noise levels along the proposed project route are at or above satisfactory noise levels for residential use. The proposed project route is in a highly urban area with high noise levels, much of the noise being from vehicle traffic and buses.

**TABLE 2.11-1
NOISE MEASUREMENTS ALONG PROPOSED PROJECT ROUTE**

Location (Street intersections)	Noise Levels (dBA)					
	Average (L _{eq})	Minimum (L _{eq})	Maximum (L _{eq})	Average (L ₅₀)	Average (L ₉₀)	Average (L _{dn})
Illinois and Humboldt	61.7	48.3	81.8	64.8	56.4	65.6
Cesar Chavez and Mississippi	73.8	61.2	93.4	70.8	65.3	77.8
Evans and Jennings	65.8	53.7	85.7	69.3	63.0	69.8

dBA A-weighted decibels

L_{eq} Equivalent sound level

L₅₀ Sound Level at the 50th percentile

L₉₀ Sound Level at the 90th percentile

L_{dn} day-night equivalent noise level

SOURCE: Essex Environmental (2003)

REGULATORY CONTEXT

City and County of San Francisco General Plan

The City and County of San Francisco General Plan does not specifically address community noise issues as it relates to stationary sources. However, the Transportation Noise section of the Environmental Protection Element includes a table that lists acceptable noise levels with land use types. In Objective 11, “Promote Land Uses that are Compatible with Various Transportation Noise Levels,” a table titled “Land Use Compatibility Chart for Community Noise” is included. In that table under Commercial Land Use, the stated noise level “Satisfactory, with no special noise insulation requirements” is a maximum 78 A-weighted decibels (dBA)-day-night equivalent noise level (L_{dn}).

San Francisco Police Code

The San Francisco Police Code, Article 29, “Regulation of Noise,” states: “[i]t is hereby declared to be the policy of the City and County to prohibit unnecessary, excessive, and offensive noise from all sources subject to its police power.” Section 2901.11 defines unnecessary, excessive, or offensive noise as “...any sound or noise conflicting with the criteria, standards, or levels set forth in the Article for permissible noises. In the absence of specific maximum noise levels, a noise level which exceeds the ambient noise level by 5 dBA or more measured at the nearest property line...”

Article 29, “Regulation of Noise” of the San Francisco Police Code states in Section 2909, “Fixed Source Noise Level,” that for property zoned M-2 (the area in which the project is located) “...it is unlawful for any person to operate any fixed machinery or equipment, or similar mechanical device in any manner so as to create any noise which would cause the noise level measured at the Property Line by noise emissions...” to exceed 75 dBA at any time.

Section 2907, “Construction Equipment” states, “...it shall be unlawful for any person, including the City and County of San Francisco, to operate any powered construction equipment, regardless of age or date of acquisition, if the operation of such equipment emits noise at a level in excess of 85 dBA when measured at a distance of 100 feet from such equipment or an equivalent sound level at some other convenient distance.” However, Subsection (c) states: “[t]he provisions ...of this Section shall not be applicable to impact tools and equipment, provided that ...such impact tools and equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof and approved by the Director of Public Works as best accomplishing maximum noise attenuation, and that pavement breakers and jackhammers shall also be equipped with acoustically attenuated shields or shrouds recommended by the manufactures...”

Section 2909, “Construction Work at Night” states: “[i]t shall be unlawful for any person, between the hours of 8 p.m. of any day and 7 a.m. of the following day to erect, construct, demolish, excavate for, alter, or repair any building or structure if the noise level created thereby is in excess of the ambient noise level by 5 dBA at the nearest *property line*, unless a special permit...has been...granted...”

IMPACTS DISCUSSION OF NOISE

METHODOLOGY AND SIGNIFICANCE CRITERIA

Based on the California Environmental Quality Act (CEQA) Guidelines (Governor's Office of Planning and Research, 1996), a project may be deemed to have a significant effect on the environment if it would increase substantially the ambient noise levels for adjoining areas. With regard to increases in A-weighted noise level, it is widely accepted that the average person can barely perceive noise level changes of 3 dBA, while a change in noise levels of 5 dBA is a readily perceptible increase in noise levels and the minimum required increase for a change in community reaction (Caltrans, 1998; U.S. DOT, 1990). With temporary noise impacts, identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, as well as the absolute change in dBA levels and the time of day in which the noise occurs.

The analysis of the potential intensity of impacts to noise was derived from noise data from like sources in the project area. This information was compared with the construction and design criteria of the proposed project. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Construction of the proposed project components could result in short term noise impacts. Once constructed, the operational phase of the proposed project would result in a less than significant impact on community noise levels. The only change in noise would be a minimal increase in noise in the switchyards and the noise from vehicles during regular inspection of powerlines, instrumentation and control, and support systems.

Impact NOI-1: Construction activities would intermittently and temporarily generate noise levels above existing ambient levels in the project vicinity This would be a less than significant impact with implementation of Mitigation Measure NOI-1. Additionally, Mitigation Measure LUP-1, provided in Section 2.9 *Land Use*, shall be implemented to minimize impacts to sensitive receptors.

The proposed project would result in potentially significant noise impacts from construction required for the trench. Project ground disturbance would be limited to trenching activities between the Potrero and Hunters Point switchyards and small excavations associated with foundation construction for new structures at the switchyards. Outside of the switchyards, all ground disturbing activities would be conducted in existing paved roadways, a parking lot, and a vacant lot.

The proposed project route would be located within 45 feet of residential uses on 25th Street, Minnesota Street, and Cesar Chavez Street. Project construction equipment would generate high

noise levels during trenching operations. Noisy equipment would include saw-cutting and pavement-breaking machines and jackhammers (used sparingly) to break up sections of concrete that the saw-cutting and pavement-breaking machines can not reach; as well as, portable generators, air compressors, and backhoes. **Table 2.11-2** shows typical noise levels of construction equipment and noise levels achievable with feasible controls. With the exception of the pile driver (not proposed for this project), all equipment noise levels could be reduced to 85 dBA or less at 100 feet, in compliance with the San Francisco Police Code.

**TABLE 2.11-2
CONSTRUCTION EQUIPMENT NOISE LEVELS AND ABATEMENT POTENTIAL**

Equipment	Noise Level (dBA) @ 50 Feet	With Feasible Noise Control^a
<i>Earthmoving</i>		
Front Loader	79	75
Backhoe	85	75
Dozer	80	75
Tractor	80	75
Scraper	88	80
Grader	85	75
Paver	89	80
<i>Materials Handling</i>		
Concrete Mixer	85	75
Concrete Pump	82	75
Crane	83	75
<i>Stationary</i>		
Pump	76	75
Generator	78	75
<i>Impact</i>		
Pile Driver	101	95
Jack Hammer	88	75
Rock Drill	98	80
Pneumatic Tools	86	80
<i>Other</i>		
Saw	78	75
Vibrator	76	75

^a Estimated levels obtainable by selecting quieter procedures or machines and implementing noise-control features requiring no major redesign or extreme cost.

SOURCE: U.S. EPA (1971)

In addition to trenching in the existing streets, there are three areas where the project could require three bores. The proposed project could use either horizontal boring or directional

drilling. Noise levels for these methods can be higher than trenching, but would still be subject to compliance with the San Francisco Police Code.

Mitigation Measure NOI-1: PG&E shall ensure that the following measures are implemented:

- **Construction hours shall be limited to between the hours of 7:00 a.m. and 8:00 p.m. in areas where residential receptors exist within 100 feet of construction or in accordance with the requirements of the excavation permit issued by the City of San Francisco.**
- **All equipment used on the project shall be muffled and maintained in good operating condition. All internal combustion engine-driven equipment shall be fitted with intake and exhaust mufflers which are in good condition.**
- **Construction contractors shall locate fixed construction equipment such as compressors as far as possible from noise-sensitive receptors during construction.**
- **Intake and exhaust mufflers recommended by the manufacturers will be installed on impact tools and equipment.**
- **Pavement breakers and jack hammerers shall be equipped with acoustically attenuated shields or shrouds recommended by the manufacturers.**

Impact NOI-2: Project construction could result in adverse impacts to nearby buildings or receptors due to excessive construction vibration. This would be a less than significant impact with implementation of Mitigation Measure NOI-2. Additionally, Mitigation Measure LUP-1, provided in Section 2.9 *Land Use*, shall be implemented to minimize impacts to sensitive receptors.

Both trenching and boring involve heavy equipment that can produce vibrations. There are no Federal Highway Administration (FHWA) or state standards for vibrations. Vibration levels as low as 0.05 inches/second can cause potential damage to historic, un-reinforced buildings (Essex Environmental, 2003). Caltrans research has found that extreme construction activities such as pavement breaking and extensive pile driving can potentially damage buildings at distances of less than 25 feet from the source. Building damage from pavement breaking and extensive pile driving can also occur within 50 to 100 feet from the source for historical buildings, buildings in poor condition, or buildings previously damaged in earthquakes (Caltrans, 2002).

Mitigation Measure NOI-2: PG&E shall ensure that the following measures are implemented:

- **Vibratory drivers instead of conventional pile drivers shall be used where feasible and effective in reducing impact noise and vibration from shoring of jack-pit and thrust-block excavations in close proximity to sensitive receptors.**

CHECKLIST IMPACT CONCLUSIONS

- a) The long-term operational noise impact of the proposed project would not exceed 75 dBA at the property line (San Francisco Police Code Section 2090). The standard set of construction equipment used for the proposed project would comply with Section 2907 of the San Francisco Police Code for construction equipment noise (see also the discussion for impact d) below).
- b) During project construction, the proposed project would involve temporary sources of localized groundborne vibration and groundborne noise from the operation of heavy equipment that could be perceptible at residences or other sensitive uses in the immediate vicinity of the construction (ref to land use map if applicable). However, since the duration of impact at any one location would be very limited and since the impact would occur during less sensitive daytime/early evening hours, the impact from construction-related groundborne vibration and groundborne noise would be less than significant on the residents. **Mitigation Measures NOI-1** and **NOI-2** would reduce the potential impact to structures to a less than significant level.

Over the long-term (after construction), the proposed project would not generate groundborne vibration and groundborne noise.

- c) Once constructed, the operational phase of the proposed project would have a less than significant impact on community noise levels. The only change in noise would be a minimal increase in noise in the switchyards and the noise from vehicles during regular inspection of powerlines, instrumentation and control, and support systems. These noise sources would not substantially increase ambient noise levels in the project area.
- d) The proposed project would result in substantial temporary increases in noise levels during the expected 9-month timeframe for construction. The construction noise impacts during the 9-month construction period would move from one area to the next along the proposed project route installing the cable line, therefore, no location would experience increased noise from the proposed project for more than one to two months. The anticipated noise levels would not be expected to exceed the limits of Article 29 (San Francisco Police Code Regulation of Noise), which limits construction noise to 85 decibels at a distance of 100 feet. The project construction would occur between 7:00 a.m. and 8:00 p.m., or during times set by the City in the Excavation Permit. If trenching work would cause traffic congestion, the City may require nighttime work to avoid traffic disruption. **Mitigation Measures NOI-1** is required to mitigate potential noise impacts that could occur if nighttime construction is required.
- e) The nearest public airports are Metro Oakland International Airport and San Francisco International Airport. Both airports are more than five miles from the project area and do not generate excessive noise levels in the project area.
- f) There are no private airstrips in the project vicinity.

REFERENCES – Noise

- California Department of Transportation (Caltrans), 1998. *Traffic Noise Analysis Protocol for New Highway Construction and Highway Reconstruction Projects*. October 1998.
- Caltrans, 2002. *Transportation Related Earthborne Vibrations*. November 2002.
- City and County of San Francisco, 1988. San Francisco Police Code, Article 29.
- City and County of San Francisco, 1995. *General Plan*, Environmental Protection Element.
- Essex Environmental, 2003. *PG&E Potrero to Hunters Point 115 kV Cable Project Proponent's Environmental Assessment*. December 2003
- Federal Transit Administration (FTA), 1995. *Transit Noise and Vibration Impact Assessment, Final Report*, April 1995.
- Governor's Office of Planning and Research, *CEQA: California Environmental Quality Act Statutes and Guidelines*, December 1996.
- U.S. Environmental Protection Agency, 1971. *Noise From Construction Equipment And Operations, Building Equipment, and Home Appliances*.
- U.S. Department of Transportation, 1990. Urban Mass Transportation Administration, *Guidance Manual for Transportation, Noise and Vibration Impact Assessment*, July 1990.

2.12 POPULATION AND HOUSING

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
POPULATION AND HOUSING— Would the proposed project result in:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SETTING

POPULATION

As of 2000, the U.S. Census Bureau estimated San Francisco's resident population at 776,733. This figure marked a 7.3 percent increase in population for San Francisco from 723,959 residents in 1990. The projected 2010 population for San Francisco is estimated at 812,900 (a 4.7 percent increase). Population is projected to increase to approximately 935,100 by 2030 (an approximate 20 percent increase from the year 2000) (ABAG, 2003). Population and housing statistics are summarized in **Table 2.12-1**. As of 2000, the South Bayshore area, including the Potrero and Hunters Point neighborhoods, encompassed 4 percent of the total San Francisco population at 33,846 people.

**TABLE 2.12-1
SAN FRANCISCO POPULATION AND HOUSEHOLDS, 2000–2030**

	2000	2010	% Change 2000–2010	2020	% Change 2010–2020	2030	% Change 2020–2030
Population	776,733	812,900	4.7%	848,100	4.3%	935,100	10.3%
Households	329,700	344,350	4.4%	363,470	5.6%	402,570	10.8%

SOURCE: ABAG (2003)

HOUSING

As of 2000, San Francisco had approximately 346,527 total housing units with a vacancy rate of less than 5 percent. Of the total housing units, approximately 32 percent of those units were single-family structures, 23 percent were 2- to 4-unit structures, and the remaining structures were 5-unit or more structures. In 2002, the South Bayshore area (Potrero and Hunters Point neighborhoods) had a total of 9,804 housing units which comprised 3 percent of all San Francisco's housing units. In 2002, it was reported that there were 212,000 renter-occupied units in San Francisco, occupying 65 percent of the total housing stock (Essex Environmental, 2003).

The projected 2010 household numbers for San Francisco are estimated to increase by 4.4 percent to 344,350. Housing is projected to increase approximately 22 percent from year 2000 to 402,570 by 2030 (ABAG, 2003). Population and housing statistics are summarized in **Table 2.12-1**.

TEMPORARY HOUSING

In 2002, San Francisco had 31,201 hotel rooms with a 66.3 percent occupancy rate.

HOMELESS POPULATION

In addition to traditional housing options, the South Bayshore Area, like other areas in San Francisco, contains a homeless population. The San Francisco Mayor's Office of Homelessness defines homeless to include "individuals or families who lack a fixed, regular and adequate nighttime residence, and who have a primary nighttime residence in one or more of the following categories: Shelter, Street, Vehicle, Makeshift, Doubled-Up, and Transitional. In 2002, the Office of Homelessness compiled a homeless point in time count report; the total count for the 2002 count was 8,640 homeless persons. This number represented an increase of 18 percent compared to a 2001 homeless count. The totals for the homeless count included three primary categories: 1) people who live and sleep on the streets; 2) people who live in shelters, transitional housing, and resource/drop-in centers; and 3) people who are residing in treatment facilities and/or hospitals (Office on Homelessness, 2002).

San Francisco's homeless street population was the most difficult to assess. During the 2001 point in time count, 2,449 homeless men; 790 homeless women; 81 transgender people; and 1,215 "gender unknown" persons were identified in the 11 supervisory districts of San Francisco, for a total of 4,535. The "gender unknown" category includes people sleeping in vehicles, in dimly lit areas, and under sleeping gear. Old or new cars with shades drawn or clothes draped around the windows were included in the homeless count by counting 1 person per car or vehicle. For the project area (Supervisory District 10), the "gender unknown" count totaled 287 (Office on Homelessness, 2002). For purposes of this MND analysis, it is assumed that approximately 50 percent of the persons counted in the "gender unknown" category in District 10 were sleeping in vehicles. Using this assumption, there are approximately 144 homeless persons sleeping in vehicles in District 10.

The proposed project route includes cars that appear to house some of the District's homeless population including along Tennessee Street and along Illinois Street (particularly between 22nd and 23rd Streets).

REGULATORY CONTEXT

CITY AND COUNTY OF SAN FRANCISCO MAYOR'S OFFICE OF HOMELESSNESS

The City and County of San Francisco Mayor's Office of Homelessness, in conjunction with the San Francisco Department of Human Services (DHS) and Department of Public Health (DPH), addresses the City/County's homeless issue by providing vocational training, supportive housing and welfare assistance programs, as well as opening new shelter locations and beds, substance abuse services, and mental health programs.

CITY AND COUNTY OF SAN FRANCISCO GENERAL PLAN RESIDENCE ELEMENT

The City and County of San Francisco General Plan Residence Element consists of three parts. Part II contains a comprehensive set of housing objectives and policies which are the framework for decision making, priority setting, and program implementation. It continues many existing City housing policies and adopts a number of new policies which emphasize affordable housing production, permanent affordability, and protection of the existing housing stock. New housing policies strive to expand land, financing, coordination, and other resources needed for the production of affordable housing. Other policies aim to upgrade seismically unsafe residential buildings and to provide a comprehensive program to house the homeless (City and County of San Francisco, 1992).

The following objectives and policies are relevant to the proposed project:

Objective 14: To Avoid Or Mitigate Hardships Imposed by Displacement

Policy 14.1: Minimize relocation hardship and displacement caused by the public or private demolition or conversion of housing.

Policy 14.2: Permit displaced households the right of first refusal to occupy replacement housing units of comparable in size, location, cost and rent control protection.

Policy 14.3: Provide relocation services where publicly funded or private actions cause displacement.

Objective 15: To Deal with the Root Causes of Homelessness, Recognizing the Solution is More Than the Provision of Emergency Shelter

Policy 15.1: Shift focus from provision of temporary shelter to provision of permanent affordable housing.

Policy 15.2: Develop strategies to deal with root causes of homelessness including lack of financial resources, employment and health services.

Policy 15.3: Provide emergency assistance programs including emergency access to food, clothing and shelter, improve coordination of services in existing shelter programs and expand health care outreach services.

IMPACTS DISCUSSION OF POPULATION AND HOUSING

METHODOLOGY AND SIGNIFICANCE CRITERIA

The analysis of the potential impacts to population and housing were derived from the available statistical data published for the area. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Project construction activities would primarily occur within existing roads, a paved parking lot, a vacant lot and existing switchyards expecting to last approximately nine months. During peak construction times, PG&E would employ approximately 60 workers (including switchyard workers, supervisors, and inspectors); 20 percent of who would be from the local PG&E workforce. Therefore, construction activities would likely increase the need for temporary accommodations. This would result in a less than significant impact due to the numerous hotel and motel accommodations within the project area and the City's hotel and motel vacancy rate (approximately 67 percent).

No direct growth-inducing impacts would occur because the proposed project would not result in the increase of local population or housing, and would not indirectly induce growth by creating new opportunities for local industry or commerce. Although the proposed project involves construction of a new 115 kV cable line, it is designed to increase reliability and accommodate existing and planned electrical load growth, and therefore, would not be growth inducing.

The proposed project would be located within PG&E switchyards, existing roads, a parking lot, and a vacant lot, and would be installed underground. Construction activities at the switchyards would occur within the fenced boundaries of each parcel; therefore there would be no displacement of housing or people from construction work at the switchyards. For the most part, no residences, businesses, or people would be displaced as a result of project construction. However, some vehicles parked on Tennessee and Illinois Streets (particularly between 22nd and 23rd Streets), in which homeless people reside, would need to be moved/relocated during construction. The following mitigation measure would address any potential impact to homeless persons that reside along the proposed project route.

Impact PH-1: Construction activities would result in the temporary displacement of the homeless population that currently resides along the proposed project route. This would be a less than significant impact with implementation of Mitigation Measure PH-1.

Mitigation Measure PH-1: PG&E shall contact and coordinate with the Mayor's Office on Homelessness to inform the resident population on the project roadways about displacement due to construction.

CHECKLIST IMPACT CONCLUSIONS

- a) PG&E would employ a maximum of approximately 60 workers, some of whom would commute from outside of the San Francisco Bay Area. Given this small number of workers and the available of numerous hotels and motels, the proposed project would not result in a permanent population increase. Therefore, this would be a less than significant impact.
- b) The proposed project would be primarily constructed within existing roadways, a paved parking lot, a vacant lot, and existing switchyards. There is a homeless population that occupies the sides of the existing roadways in the project area. Construction activities would result in the temporary displacement of the homeless population that currently resides along the proposed project route. Mitigation Measure PH-1 would reduce this impact to a level of insignificance.
- c) The proposed project would be primarily constructed within existing roadways, a parking lot, a vacant lot, and switchyards. There is a homeless population that occupies the sides of the existing roadways in the project area. Construction activities would result in the temporary displacement of the homeless population that currently resides along the proposed project route. Mitigation Measure PH-1 would reduce this impact to a level of insignificance.

REFERENCES – Population and Housing

Association of Bay Area Governments (ABAG), *Projections 2003*, 2003.

City and County of San Francisco, *San Francisco General Plan*, Residence Element, 1990, (amended 1992).

City and County of San Francisco Mayor's Office on Homelessness, 2002. *Annual Homeless Count Report*. November 25, 2002.

U.S. Census Bureau, *Census 2000*, 2000.

2.13 PUBLIC SERVICES

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
PUBLIC SERVICES—Would the proposed project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING

FIRE PROTECTION

The San Francisco Fire Department (SFFD) provides fire protection services for the City and County of San Francisco. SFFD employs approximately 350 firefighting and emergency medical field personnel daily, assigned to 42 fire stations located throughout San Francisco (excluding San Francisco International Airport). Its forces include 42 engine companies, 18 truck companies, 18 ambulances, two rescue squads, two fireboats, and specialized units such as a cliff rescue unit and a hazardous waste unit (SFFD, 2004). The SFFD is a member of the California State Mutual Aid Agreement.¹ The SFFD also provides emergency medical services in San Francisco, including ambulance service.

The following four fire stations respond to emergencies in the project vicinity, the first two of which are located within 0.5 mile of the project area.

- Station No. 25, located at 3305 Third Street
- Station No. 9, located at 2245 Jerrold Avenue
- Station No. 37, located at 798 Wisconsin Street
- Station No. 17, located at 1295 Shafter Street

¹ The California State Mutual Aid Agreement is a voluntary agreement that allows SFFD to respond to emergency calls in other jurisdictions and vice versa, if requested and available.

POLICE PROTECTION

The San Francisco Police Department (SFPD) provides police protection services in the City and County of San Francisco, including the project area. Police Department personnel are assigned to the Office of the Chief and five bureaus: Field Operations, Investigations, Technical Services, Airport, and Administration. Patrol functions are performed by the police officers of the Field Operations Bureau from nine District stations (SFPD, 2004).

The proposed project would be located within the jurisdiction of the Bayview Police District, which is served by the Bayview Police Station located at 201 Williams Avenue in Bayview. The Bayview Police District covers one of the largest areas and includes the southeastern part of the city, extending along the eastern edge of McClaren Park (Cambridge Street) to the Bay and south from Channel Street to the San Mateo County line (SFPD, 2004).

SCHOOLS

Public education in the City and County of San Francisco is provided primarily by the San Francisco Unified School District (SFUSD), which serves a student population of approximately 57,800 in over 160 pre-school, elementary, middle, and high schools (SFUSD, 2004). In addition, another estimated 25,460 students attend over 95 private schools located throughout San Francisco. Two schools are located within 1/4 mile of the project area: Malcolm X Academy Elementary School located at 350 Harbor Road and Davis Middle School located at 1195 Hudson Street.

PARKS AND RECREATION

The City and County of San Francisco's Recreation and Park Department manages San Francisco's recreation facilities and parks. The department oversees the operations of nearly 300 recreational facilities throughout San Francisco (San Francisco Recreation and Park Department, 2004).

There are seven parks and recreational facilities overseen by the Recreation and Park Department within 1/2 mile of the project area which include: Youngblood Coleman Playground, located at Mendel Street and Galvez Avenue; Joseph Lee Recreation Center, located at 1395 Mendel Street; Palou and Phelps Mini Park, located at Palau and Phelps Streets; Hilltop Park, located at La Salle and Whitney Young Circle; Adam Rogers Park, located at Ingalls Street and Oakdale Avenue; and Hunter's Point/Milton Myer Recreation Center, located at 200 Middle Point Road. In addition, the project area is within close proximity to Heron's Head Park, India Basin/Shoreline Park, and India Basin Open Space. Also, there is one park known as Muwekma Park, located on the north shore of Islais Creek, adjacent to Pier 80 that is managed by the Urban Resources Partnership and Muwekma Ohlone Tribe. See **Figure 1-1** for the location of the park. A small group of community gardeners have maintained this site for several years, with the support and permission of the Port of San Francisco.

The project area is also located in the immediate vicinity of a portion of the San Francisco Bay Trail. The Bay Trail is a planned recreational corridor that, when complete, will encircle San Francisco and San Pablo Bays with a continuous 400-mile network of bicycling and hiking trails. It will connect the shoreline of all nine Bay Area counties, link 47 cities, and cross the major toll

bridges in the region. To date, approximately 210 miles of the route, or slightly more than half the Bay Trail's ultimate length, has been completed (ABAG, 2004). The proposed project route would intersect with a portion of the Bay Trail² that runs along Illinois Street between 22nd and 23rd Streets.

OTHER PUBLIC FACILITIES

The proposed project route is located in an area that contains various city streets. For a discussion of roads and streets, please see Section 2.15, *Transportation and Traffic*.

REGULATORY CONTEXT

San Francisco's General Plan Community Facilities Element contains specific objectives and policies for attainment of sufficient police, fire, neighborhood facilities, and other public services. Because the proposed project would not result in the need for additional public services (see impacts section, below), none of the policies are applicable to the proposed project.

IMPACTS DISCUSSION OF PUBLIC SERVICES

METHODOLOGY AND SIGNIFICANCE CRITERIA

The analysis of the potential intensity of impacts to public services was derived from the available public services data for project area. This information was compared with the construction, design, and operation criteria of the proposed project. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

No additional government or public services would be required by the proposed project. The San Francisco Fire and Police Departments are sufficiently equipped to handle any emergencies that may occur in the vicinity of the proposed project. The proposed project would neither increase the demand for nor alter the level of local public services required because it would not perceptibly increase local population or housing opportunities.

To minimize vandalism and/or terrorism, PG&E has adopted various precautionary measures. The PG&E standard manhole cover weighs 350 pounds and discourages most incidences of vandalism. The cover has a provision for bolting the cover to the manhole frame at four locations using a stainless steel pent-head bolt. Typically, this bolting down practice is limited to locations where unauthorized entry to a vault or manhole has occurred or attempts of unauthorized entry are considered likely.

² This portion of the Bay Trail is designated as an unimproved on street Bay Trail segment.

Impact PS-1: The proposed facilities could be subject to vandalism and/or terrorism. This would be a less than significant impact with implementation of Mitigation Measure PS-1.

Mitigation Measure PS-1: All manhole covers installed as part of the proposed project shall be consistent with PG&E standard manhole covers. Each manhole cover shall weigh at least 350 pounds or the covers shall be bolted to the manhole frame at four locations using a stainless steel pent-head bolt whenever the manhole is not in use.

Traffic associated with project construction could indirectly affect emergency response times. The proposed project route is located approximately 1,300 feet from Fire Station No. 25, and approximately 1,500 feet from Fire Station No. 9. PG&E would coordinate with San Francisco emergency personnel prior to project construction to ensure that construction activities and associated lane closures would not significantly affect emergency response vehicles. As a result, potential impacts would be less than significant (see Section 2.15, *Transportation and Traffic*, for additional information on transportation and traffic impacts).

Project construction activities would result in the temporary closure and/or restriction of some parks, including a segment of the Bay Trail along Illinois Street between 22nd and 23rd Streets. Implementation of Mitigation Measures PS-2a and PS-2b would reduce this impact to a level of insignificance.

Impact PS-2: Project construction activities would result in the temporary closure and/or restriction of some parks, including the Bay Trail. This would be a less than significant impact with implementation of Mitigation Measures PS-2a and PS-2b.

Mitigation Measure PS-2a: PG&E shall coordinate with the City and County of San Francisco Park and Recreation Department and the Association of Bay Area Governments' Bay Trail staff prior to closure and/or restriction of park and recreation facilities.

Mitigation Measure PS-2b: Park facilities, including the Bay Trail along Illinois Street between 22nd and 23rd Streets shall not be closed and/or restricted for a period of time exceeding two consecutive weeks, unless there are extenuating circumstances.

Since project construction would not have any growth-inducing impacts (see Section 2.12, *Population and Housing*), it would not create a need for new schools or other public services. Some of the temporary construction workforce would be local, so school enrollment would not be significantly affected. In addition, the volume of workers would be minimal relative to the local population. Therefore, there would be a less than significant impact to schools and public services.

CHECKLIST IMPACT CONCLUSIONS

The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or in the need for new or physically altered governmental facilities.

- a.i) Although there are two fire stations near the proposed project, neither is immediately adjacent to the proposed project route. Emergency services could be required in the event of an accident or emergency during project construction or operations; however, these events would be unlikely and would not necessitate increased levels of service. The proposed project would neither increase the demand for nor alter the level of local public services required because it would not increase the local population or housing opportunities. Traffic could indirectly affect fire department response times. However, PG&E would coordinate with San Francisco emergency personnel prior to construction to ensure that construction activities and associated lane closures would not significantly affect emergency response vehicles (see Section 2.15, *Transportation and Traffic*, for additional information on transportation and traffic impacts). As a result, impacts to fire protection services would be less than significant.
- a.ii) There are no police stations in the project area. Emergency services could be required in the event of an accident or emergency during project construction or operations; however, these events would be unlikely and would not necessitate increased levels of service. The proposed project would neither increase the demand for nor alter the level of police service required because it would not increase the local population or housing opportunities. Implementation of **Mitigation Measure PS-1** would reduce the likelihood of vandalism and/or terrorism of the proposed project. As a result, impacts to police protection services would be less than significant.
- a.iii) The proposed project would not increase the local population nor would it provide additional housing opportunities, and most of the small contractor crews would reside in the Bay Area. As a result, there would be no need for the construction of additional school facilities. While there are schools within 1/2 mile of the project area, none of the schools is located immediately adjacent to the proposed project and therefore, would not be affected during project construction.
- a.iv) Because the proposed project would not increase population or permanently close or restrict use of parks, no new parks or public facilities would be needed. Implementation of **Mitigation Measures PS-2a and PS-2b** would mitigate impacts related to the temporary closure and/or restriction of parks and recreation facilities, including the Bay Trail, to a less than significant level.
- a.v) For a discussion of impacts related to road closures, please see Section 2.15, *Transportation and Traffic*. No other public facilities would be impacted by the construction or operation of the proposed project.

REFERENCES – Public Services

Association of Bay Area Governments (ABAG), San Francisco Bay Trail,
<http://baytrail.abag.ca.gov/> accessed June 16, 2004.

San Francisco Police Department (SFPD), http://www.sfgov.org/site/police_index.asp?id=19971
accessed June 16, 2004.

San Francisco Fire Department (SFFD), http://www.ci.sf.ca.us/site/fire_index.asp accessed
June 16, 2004.

San Francisco Recreation and Park Department, http://www.ci.sf.ca.us/site/recpark_index.asp
accessed June 16, 2004.

San Francisco Unified School District (SFUSD), <http://portal.sfusd.edu/template/default.cfm>
accessed June 16, 2004.

2.14 RECREATION

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
RECREATION— Would the proposed project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING

The City and County of San Francisco's Recreation and Park Department manages San Francisco's recreation facilities and parks. The department oversees the operations of nearly 300 recreational facilities throughout San Francisco (San Francisco Recreation and Park Department, 2004).

There are seven parks and recreational facilities overseen by the Recreation and Park Department within 1/2 mile of the project area which include: Youngblood Coleman Playground, located at Mendell Street and Galvez Avenue; Joseph Lee Recreation Center, located at 1395 Mendell Street; Palou and Phelps Mini Park, located at Palou and Phelps Streets; Hilltop Park, located at La Salle and Whitney Young Circle; Adam Rogers Park, located at Ingalls Street and Oakdale Avenue; and Hunter's Point / Milton Myer Recreation Center, located at 200 Middle Point Road. In addition, the project area is within close proximity to Heron's Head Park, India Basin / Shoreline Park, and India Basin Open Space. Also, there is one park known as Muwekma Park, located on the north shore of Islais Creek, adjacent to Pier 80, that is managed by the Urban Resources Partnership and Muwekma Ohlone Tribe. See **Figure 1-1** for the location of the park. A small, group of community gardeners have maintained this site for several years, with the support and permission of the Port of San Francisco.

The project area is also located in the immediate vicinity of a portion of the San Francisco Bay Trail. The Bay Trail is a planned recreational corridor that, when complete, will encircle San Francisco and San Pablo Bays with a continuous 400-mile network of bicycling and hiking trails. It will connect the shoreline of all nine Bay Area counties, link 47 cities, and cross the major toll bridges in the region. To date, approximately 210 miles of the route, or slightly more than half the Bay Trail's ultimate length, has been completed (ABAG, 2004). The proposed project route would intersect with a portion of the Bay Trail¹ that runs along Illinois Street between 22nd and 23rd Streets.

¹ This portion of the Bay Trail is designated as an unimproved on street Bay Trail segment.

IMPACTS DISCUSSION OF RECREATION

METHODOLOGY AND SIGNIFICANCE CRITERIA

The analysis of the potential intensity of impacts to parks and recreation were derived from available maps and published data characterizing the project area. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

While there would be a temporary increase in population as a result of project construction, the increase would be small, short-term, and would not put additional demand on existing park use. The proposed project would also not involve the construction or expansion of existing recreational facilities. As a result, recreation impacts would be less than significant. There are a number of parks or recreational facilities within 0.5 mile of the proposed project route, including the Bay Trail. While the proposed project would not increase population, construction activities would result in temporary closure or restriction of some parks, including the Bay Trail along Illinois Street. With implementation of **Mitigation Measures PS-2a and PS-2b** and because the closures and/or restrictions would be temporary, this project impact would be less than significant.

For additional parks and recreation impacts discussion, please see Section 2.13, *Public Services*.

CHECKLIST IMPACT CONCLUSIONS

- a) The proposed project would not increase the use of or affect the demand for existing parks and recreation facilities because the proposed project would not directly or indirectly induce growth. Physical deterioration of recreation facilities would not occur because there would not be any permanent increases in population. As a result, recreation impacts would be less than significant.
- b) The proposed project would not include the construction of new recreational facilities or require the construction or expansion of existing recreational facilities because no permanent increase in population would result. Therefore, recreation impacts would be less than significant.

REFERENCES – Recreation

Essex Environmental, 2003. *Potrero to Hunters Point 115 kV Cable Project Proponent's Environmental Assessment*. December 2003.

2.15 TRANSPORTATION / TRAFFIC

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
TRANSPORTATION / TRAFFIC—				
Would the proposed project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SETTING

INTRODUCTION

Project construction would have temporary effects on segments of the roadway network in San Francisco by increasing traffic volumes on roads that provide access to the construction work areas and by reducing the available width of some roads during periods of the day when underground duct bank installations would occur. The main transportation corridors providing access to the project area are U.S. Highway 101 (US 101) and Interstate 280 (I-280). The arterial roadways that are located in the vicinity of the proposed project route include Third Street, Cesar Chavez Street, Cargo Way, and Evans Avenue. Each roadway is described in more detail below.

REGIONAL ROADWAYS

US 101 is a major four- to six-lane, north-south, State highway that runs the full length of San Francisco County, both as a multi-lane freeway, and as a major arterial (i.e., on Van Ness Avenue and Lombard Street). US 101 functions as a freeway in the immediate project area, with

the project area most directly accessed via the Cesar Chavez Street interchange. Caltrans reports an average of about 250,000 vehicles per day on US 101 near the Cesar Chavez Street interchange, with a peak-hour volume of about 16,000 vehicles. The peak-hour level of service (LOS) in this segment of US 101 generally runs at LOS D to E in the southbound direction and LOS F in the northbound direction.¹

I-280 is a major six- to eight-lane, north-south, freeway that connects San Francisco with the greater San Jose area, and serves as a major commuter route between the two cities. The most central project access from I-280 is at the Cesar Chavez Street interchange. The proposed project route crosses below I-280 in two locations, once on Cesar Chavez Street and once on Evans Avenue. Caltrans reports an average of between 86,000 and 107,000 vehicles per day on I-280 near the Cesar Chavez Street interchange, with a peak-hour volume of between 6,600 and 8,200 vehicles. The level of service in this segment of I-280 generally runs at LOS D to E in the southbound direction and LOS A to C in the northbound direction, during morning peak hour. During the evening peak, traffic flows at LOS D to E for both directions.¹

LOCAL ROADWAYS

The proposed project would generate vehicle trips (by construction trucks and workers) that would temporarily increase traffic volumes on local roadways used to access the work zone(s). In addition, local roadways would be affected by trenching and duct bank installation in the paved right-of-way.

Arterial Roads

The major and secondary arterial roadways carry large volumes of traffic from one section of a city to another and beyond.

Third Street is a four- to six-lane, north-south, major arterial that runs most of the length of San Francisco, beginning at its intersection with Market Street in the north and trending southward until it transitions into Bayshore Boulevard near the San Mateo County line. Parallel parking and sidewalks are available on both sides of Third Street. Peak-hour traffic volumes are about 2,000–2,200 vehicles south of 25th Street, and about 1,500–1,600 vehicles near Evans Avenue (Wilbur Smith Associates, 2000). Muni is currently constructing the Third Street Light Rail Transit Project, which will eliminate one travel lane in each direction on Third Street.

Cesar Chavez Street is a four- to six-lane, east-west, major arterial for most of its length, extending in a westward direction from its intersection with Third Street to its intersection at the endpoint of South Van Ness Avenue, where it transitions into Clipper Street; Cesar Chavez Street extends east of Third Street to Pier 80 as a secondary arterial. Cesar Chavez Street is the most central freeway exit used to access the project area from US 101 and I-280. Parallel parking is

¹ San Francisco Transportation Authority, 2003 Congestion Management Program. Level of service is a qualitative assessment of the average motorists' perception of the quality of traffic flow, accounting for delays, congestion, maneuverability, etc. Service levels range from LOS A (free flow, with little or no delay) to LOS F (congested flow, with extremely very long delays); LOS D (moderately high delays) is considered the lowest acceptable level in San Francisco.

available on either side of the roadway, as are sidewalks. Peak-hour traffic volumes are about 1,500–1,800 vehicles near Pennsylvania Avenue, and 1,200–1,400 vehicles west of Third Street (Wilbur Smith Associates, 2000).

Evans Avenue is a four-lane roadway running in a southeasterly direction, beginning at Cesar Chavez Street in the northwest and terminating just past its intersection with Jennings Street, where it transitions to Hunters Point Boulevard. It is classified as a major arterial from its origin at Cesar Chavez Street to its intersection with Third Street; it becomes a secondary arterial from Third Street to its eastern terminus. Parallel parking is available on both sides of the roadway, as are sidewalks for most of its length, although the sidewalk is unpaved under I-280. Peak-hour traffic volumes are about 900–1,200 vehicles near Third Street (Wilbur Smith Associates, 2000).

Collector and Local Streets

Collector streets are relatively low-capacity streets serving local distribution functions primarily in large, low-density areas, connecting to major and secondary arterials. Local streets are streets intended for access to abutting residential and other land uses, rather than for through traffic. The local street network consists of road segments (some discontinuous), primarily with two travel lanes, that serve areas both within and outside the immediate project area. The following descriptions of collector and local streets that would be affected by the proposed projects pertain to characteristics in the project area.

North-South Streets

Illinois Street has parallel parking and sidewalks available on both sides of the road, south of 22nd Street. North of 22nd Street, parking is perpendicular on both sides of the road, and a sidewalk is on the east side of the road only. Illinois Street was recently extended, as a four-lane road, from 25th Street to Marin Street; it transitions to its two-lane cross section between 25th Street and 23rd Street, with two northbound lanes and one southbound lane. The City of San Francisco is planning to extend Illinois Street across the Islais Creek Channel to Cargo Way / Amador Street as part of the Illinois Street Intermodal Bridge Project. The bridge will provide two lanes for vehicle traffic, and freight rail will be located down the center of the bridge. Construction of the bridge is expected to begin in September 2004 and to be completed in December 2005 (Nokazowa, 2004).

Tennessee Street runs from Mariposa Street to Marin Street; both perpendicular and parallel parking are available, and there are sidewalks on both sides of the road.

Minnesota Street runs from 23rd Street to Cesar Chavez Street; perpendicular parking is available on both sides of the road, but no sidewalks are provided.

East-West Streets

23rd Street runs from Pennsylvania Avenue east toward Potrero Point where it dead-ends near the cargo terminals; parallel parking and sidewalks are available on both sides of the road.

25th Street runs from Illinois Street to Portola Drive, and provides access to ramps to and from I-280; both perpendicular and parallel parking are available, and there is a sidewalk on the north side of the street only.

Marin Street runs from Evans Avenue to the south side of the San Francisco Chronicle parking lot (about 0.1 mile from Evans Avenue); parallel parking and sidewalks are available on both sides of the road.

Commercial Rail

The Port of San Francisco owns several short railroad spurs used to stage cargo from the ships that come to the nearby piers. There is an isolated portion of a railroad spur located on Tennessee Street between 24th and 25th Streets which it is not currently in use that the proposed project route would parallel. The Cargo Way / Quint Street track runs from the east side of Cargo Way in a northwestern direction, crossing Third Street just north of its intersection with Cargo Way. It then turns southwest to run along the center of Quint Street, crosses Evans Avenue just south of Rankin Street, and continues westward toward the warehouses near I-280. This line is typically used once per day on weekdays, varying sometimes depending on demand. The proposed project would cross these tracks along Evans Avenue, just south of Rankin Street.

The Peninsula Corridor Joint Powers Board (JPB) operates Caltrain and owns a 77-mile rail right-of-way from San Francisco through San Jose to Gilroy. Approximately 12 trains per day carry freight on this line. The proposed project route would cross the Caltrain tracks twice along its alignment, at Cesar Chavez Street (beneath the tracks near the intersection of Mississippi Street), and at a point about 0.3 mile from the Evans Avenue / Marin Street intersection.

Public Transit

Caltrain

As described above, the Peninsula Corridor JPB operates Caltrain, contracting with Amtrak to provide commuter service. There are 43 trains in each direction per day traveling between San Francisco and points south.

San Francisco Municipal Railway (Muni)

The project site is served directly by Muni bus lines, with currently three lines (Routes 15, 19, and 44) that operate on streets in the project area. There are three bus stops on the proposed project route along Evans Avenue between Phelps Avenue and Keith Street.

Muni is constructing the Third Street Light Rail Transit Project. The new line is being constructed in two phases – Phase 1 will extend the light rail (Muni Metro) service south from the existing terminal at 4th and King Streets to the Bayshore Caltrain Station, located about three miles southwest of the Hunters Point Power Plant and Switchyard. Service is expected to start in 2005. In addition, a new maintenance facility will be built at 25th Street and Illinois Street to store, maintain, and dispatch light rail vehicles. Phase 2 is not located near the project area.

Bikeways

There are six bikeways in the project area. Class II bike lanes are dedicated lanes on the edges of roadways, and are located on Cesar Chavez Street (between Third Street and Mississippi Street), and on Evans Avenue (between Newhall Street and Hunters Point Boulevard). The San Francisco Bike Route System map provides a subset of Class III bike routes (on which bikes and vehicles share the road without a dedicated bike lane) by identifying “wide curb lane bike routes,” which are on wider roadways where bicyclists may be able to ride outside the path of vehicle travel. Of the designated bike routes on Minnesota Street (23rd and Cesar Chavez Streets), Indiana Street, Third Street, Cesar Chavez Street (Mississippi and Kansas Streets), and Evans Avenue (Cesar Chavez Street and Newhall Street), only Minnesota Street is a wide curb lane bike route.

Marine Navigation Traffic

No waterways or other such areas designated for shipping or navigation are crossed under the proposed project route.

REGULATORY CONTEXT

LOCAL REGULATIONS, GOALS, AND POLICIES

Policies, plans, and programs that have been put in place by the local government are put forth in the San Francisco General Plan. In the Transportation Element of the General Plan, Policy 23.5 states: “Minimize obstructions to through pedestrian movement on sidewalks by maintaining an unobstructed width that allows for the passing of people, strollers, and wheelchairs.”

Section 2.4.21 of the San Francisco Department of Public Works Code contains an excavation moratorium that reads, “The Department shall not issue any permit to excavate in any moratorium street; provided, however, that the Director, in his or her discretion, may grant a waiver for good cause.”² Among the streets currently under moratorium (as of April 2004, the latest list posted on the Department’s Web site [checked June 30, 2004]) are the following streets on the project route:

- Cesar Chavez Street, between Minnesota Street and Mississippi Street, until January 1, 2005
- 23rd Street, between Third Street and Tennessee Street, until June 2, 2005

PG&E is a member of the California Joint Utility Traffic Control Committee, which in 1996 published the Work Area Protection and Traffic Control Manual. The traffic control plans and associated text depicted in this manual conform to the guidelines established by the federal manual regarding basic standards for the safe movement of traffic upon highways and streets in accordance with Section 21400 of the California Vehicle Code. These recommendations include provisions for safe access of police, fire, and other rescue vehicles. In addition, PG&E would

² Section 2.4.4(n) of the San Francisco Department of Public Works Code defines a “moratorium street” as any block that has been reconstructed, repaved, or resurfaced by the Department or any other owner or person in the preceding five-year period.

apply for an Excavation Permit and a Special Traffic Permit from the City, as well as submit a Traffic Management Plan subject to agency review and approval.

IMPACTS DISCUSSION OF TRANSPORTATION / TRAFFIC

METHODOLOGY AND SIGNIFICANCE CRITERIA

Proposed projects that create a substantial increase in traffic relative to existing traffic volumes, exceed adopted traffic level of service standards, increase traffic hazards, result in inadequate emergency access, or exceed parking capacity may result in a significant effect. Typically these are proposed projects that would generate or attract traffic at a particular location or that would obstruct traffic for a time. To determine the significance of the impacts anticipated from the proposed project, the project's effects were evaluated as provided under the revised CEQA guidelines. These guidelines are summarized in the checklist provided at the beginning of this section.

Assessment of impacts related to construction of the proposed project involved evaluating the effects of the proposed project on traffic and circulation resulting from increases in traffic, loss of travel lanes and/or parking areas, disruptions to public transit, and potential safety effects associated with proposed construction. Proposed construction characteristics, including manpower and equipment, location of construction and rate of construction were determined on the basis of information provided by PG&E. Conservative assumptions were used to determine the potential number of vehicles that would be required for project construction.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact TRA-1: Project construction within existing streets would reduce the number of, or the available width of, travel lanes on roads, resulting in temporary disruption of traffic flows and increases in traffic congestion. This would be a less than significant impact with implementation of Mitigation Measures TRA-1a and TRA-1b.

Project construction would follow within and/or across a number of roadways, and activities associated with those installations would temporarily disrupt existing transportation and circulation patterns in the vicinity. Impacts would include direct disruption of traffic flows and street operations through lane blockages or street closures that would result in a reduction in travel lanes and curb parking or detour routing. Project construction work within and/or across high traffic volume arterials could significantly affect traffic flow and operations at those locations.

The width of the temporary construction work zone required for the proposed project in public roadways would be approximately 25 feet. Open trench construction within paved roadways would be expected to proceed at a rate of up to about 300 linear feet per day. Special construction techniques (e.g., horizontal boring or directional drilling) are proposed to cross the Third Street light rail at 23rd Street and at Evans Avenue, and to cross a railroad spur on Evans Avenue between Rankin Street and Quint Street. A construction corridor width of 25 feet would

be used in most places for the construction of the duct bank, but additional space would be required at the vault and boring locations. Equipment and vehicles generally would be parked on the street opposite the trench. Excavated materials would be temporarily stored at PG&E property located north of the Potrero Swithyard, while equipment storage/staging areas would be located near each switchyard. Each of the following roadways are paralleled by the proposed project route and may experience lane closures during construction of the project:

- 23rd Street
- 25th Street
- Cesar Chavez Street
- Evans Avenue
- Illinois Street
- Marin Street
- Minnesota Street
- Tennessee Street

In addition, the following roadways are crossed by the proposed project route and may experience lane closures where they intersect the proposed project route:

- 24th Street
- 26th Street
- Indiana Street
- Jennings Street
- Mendell Street
- Newhall Street
- Napoleon Street
- Phelps Street
- Rankin Street

Collectively, these closures are anticipated to last approximately nine months, though the duration of lane closures on individual streets would be dictated by the pace of construction (anticipated to be about 300 feet per day). One traffic lane would remain open at all times on these roadways. Alternate one-way traffic control would be conducted with traffic control devices (including flaggers) along all affected roadways, with the exception of Cesar Chavez Street and Evans Avenue. Because the latter streets are four-lane roads with two lanes on each side, one-way traffic control would not be required, but traffic could be limited to one lane in each direction. The temporary lane closures, and the increased traffic disruption as a result of those closures would be a short-term, but potentially significant, impact of the project.

The proposed project route crosses the Port of San Francisco's Cargo Way / Quint Street railroad spur located on Evans Avenue. PG&E would coordinate with the Port of San Francisco prior to construction to determine the best way to cross these tracks. The tracks would be either open-cut trenched (which would temporarily disrupt access), or crossed via a horizontal jack-and-bore (leaving access open during construction). Under the horizontal jack-and-bore option, bore pits, situated to avoid interference with freight traffic, would be excavated on either side of the tracks. Using the open-cut trenching option, coordination with the Port would be required in order to

avoid interruption to rail service. The other spurs in the project area, along Illinois Street north of 25th Street, and on Tennessee Street, between 24th and 25th Streets, currently are not in use and would be open-cut trenched.

Mitigation Measure TRA-1a: PG&E shall obtain and comply with local and state road encroachment permits, and railroad encroachment permits.

PG&E would obtain all necessary road and railroad encroachment permits prior to construction and would comply with all the applicable conditions of approval. As described above, California Joint Utility Traffic Control Committee (of which PG&E is a member) published the Work Area Protection and Traffic Control Manual, which includes requirements to ensure safe maintenance of traffic flow through or around the construction work zone, and safe access of police, fire, and other rescue vehicles. In addition, the City of San Francisco's Excavation Permit and a Special Traffic Permit (for which PG&E would apply), and the applicant-prepared Traffic Management Plan (subject to City review and approval) would govern how traffic flow is safely maintained during project construction.

Mitigation Measure TRA-1b: PG&E shall implement the following transportation/traffic measures.

- **PG&E shall prepare and implement a Traffic Management Plan. PG&E shall submit the Plan to the City and County of San Francisco for review and approval prior to construction. The plan shall:**
 - **include a discussion of work hours, haul routes, limits on the lengths of open trench, work area delineation, traffic control and flagging;**
 - **identify all access and parking restrictions and signage requirements;**
 - **layout a plan for notifications and a process for communicating with affected residents and businesses prior to the start of construction. Advance public notification would include postings of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access points/driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints;**
 - **include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times;**
 - **include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access;**
 - **specify the street restoration requirements pursuant to PG&E's franchise agreements with the City and County of San Francisco;**

- PG&E shall identify all roadway locations where special construction techniques (e.g., horizontal boring, directional drilling or night construction) would be used to minimize impacts to traffic flow.
- PG&E shall develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
- PG&E shall consult with San Francisco Muni at least one month prior to construction to coordinate bus stop relocations (as necessary) and to reduce potential interruption of transit service.
- PG&E shall coordinate with the City and County of San Francisco, San Francisco Muni, the Port of San Francisco, and any other appropriate entity, regarding measures to minimize the cumulative effect of simultaneous construction activities in overlapping areas.
- If excavation is scheduled to occur while the moratorium is in effect on Cesar Chavez Street (until January 1, 2005) and on 23rd Street (until June 2, 2005), PG&E shall repave and restripe the entire street from curb to curb (not just the area that was trenched).

Impact TRA-2: Project construction would result in short-term increases in vehicle trips by construction vehicular activities and construction workers. This would be a less than significant impact with implementation of Mitigation Measure TRA-2.

Mitigation Measure TRA-2: Implement Mitigation Measures TRA-1a and TRA-1b.

Project construction-generated traffic would be temporary and therefore would not result in any long-term degradation in operating conditions or level of service on any proposed project roadways. The primary off-site impacts from the movement of construction trucks would include short-term and intermittent lessening of roadway capacities due to slower movements and larger turning radii of the trucks compared to passenger vehicles. The majority of the proposed project route is located within relative proximity to major arterials and freeways. The use of those routes to reach each day's construction area would minimize the proposed project's effects on traffic flow in the vicinity of the project sites.

Traffic-generating construction activities related to the proposed project would consist of the daily arrival and departure of construction workers to each work site; trucks hauling equipment and materials to the work site; and the hauling of excavated spoils from, and import of new fill to, each work site.

Approximately 25 construction workers and 6 truck drivers would be required during excavation and conduit installation. Approximately 15 construction personnel would be employed during cable installation. For project construction activities at the Potrero and Hunters Point

switchyards, the construction crew size would be up to 15 workers. Based on these estimated crew sizes, construction worker trips traveling to and from each work site are not anticipated to exceed 30 round trips (60 one-way trips) per day.

Project-related truck traffic associated with conduit installation would be limited to transporting supplies and equipment to and from the construction and laydown areas along the right-of-way, and hauling excavated materials away from the trench to the excavated materials storage areas near the switchyards. The trench size for open-cut installation within paved roadways would be approximately two feet wide by six feet deep. It is expected that up to 300 feet of trench can be completed in any given day. Using the above trench sizes and construction rate estimates, the number of truck trips per day is estimated to be about 16 dump truck round trips (32 one-way trips) removing excavated materials from the work area per day, 12 dump truck round trips (24 one-way trips) bringing native backfill into the work area per day, and 5 concrete truck round trips (10 one-way trips) to and from the project area per day. Off-site vehicle trips generated at locations where special construction techniques are proposed (e.g., horizontal boring or directional drilling) for crossing major roads or railroad tracks would be less than that generated by trenching within paved roadways.

Project-related truck traffic associated with construction activities at the switchyards would be limited to 3 pickup trucks and a boom truck stationed at the switchyard under construction (first at the Potrero switchyard, and then at the Hunters Point switchyard).³ These vehicles could generate 3 trips each (in/out) daily, for a total of 18 trips per day. Additionally, various material delivery trucks would make deliveries twice a week, estimated at 2 trucks times 2 (in/out) weekly, for a total of 8 trips per week.

Proposed hours of construction are 7:00 a.m. to 8:00 p.m., in areas where residential receptors exist within 100 feet of construction, or during times set by the City and County of San Francisco in the Excavation Permit and a Special Traffic Permit. Construction traffic would occur throughout the day, thus lessening the effect on peak-hour (commute) traffic (generally 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.). The project-generated trips would not be substantial relative to background traffic conditions (i.e., would fall within the daily fluctuations of traffic volumes) for these roadways. Therefore, this short-term increase in vehicle trips would not significantly affect level of service and traffic flow on roadways.

Level of service standards for roadways that are part of county Congestion Management Program (CMP) networks are intended to regulate long-term traffic increases from operation of new development, and do not apply to temporary construction projects. As such, the proposed project would not exceed level-of-service standards established by the San Francisco Transportation Authority for designated CMP roadways.

As specified under **Mitigation Measure TRA-1a**, above, PG&E would obtain all necessary road and railroad encroachment permits prior to construction and would comply with all the applicable

³ There also would be some minor construction at both switchyards at the conclusion of the project when the cable would be terminated, energized and tested.

conditions of approval. The applicant-prepared Traffic Management Plan (subject to City review and approval) would govern how traffic flow is safely maintained during project construction. Specific requirements that may be included in the Traffic Management Plan are identified under **Mitigation Measure TRA-1b**. Implementation of **Mitigation Measures TRA-1a** and **TRA-1b** would ensure potential impacts associated with temporary increases in construction traffic would be less than significant.

Operational Effects

The underground portion of the cable would be inspected at the vault locations; therefore, it would not significantly disturb traffic circulation on city streets. The operation of underground cable would not conflict with the existing transportation and traffic within the project area. As a result, operation and maintenance of the proposed project would not affect transportation or traffic.

Switchyard monitoring and control functions would be connected to the existing PG&E computer system by two telecommunication circuits. Therefore, no additional trips to the Potrero Switchyard or Hunters Point Switchyard, beyond what currently occurs, would be required during the proposed project operation. As a result, there would be no impacts, and no mitigation is required.

Impact TRA-3: Project construction within roadways and railroad rights-of-way would temporarily increase the potential for accidents. This would be a less than significant impact with implementation of Mitigation Measure TRA-3.

Mitigation Measure TRA-3: Implement Mitigation Measures TRA-1a and TRA-1b.

The proposed project would not involve any new permanent design features that could be hazardous or incompatible because, upon completion, the cable would be underground. However, heavy equipment operating adjacent to or within a railroad or road right-of-way would increase the risk of accidents. Construction-generated trucks on project area roadways would interact with other vehicles. Potential conflicts also could occur between construction traffic and bicyclists and pedestrians.

As specified under **Mitigation Measure TRA-1a**, above, PG&E would obtain all necessary road and railroad encroachment permits prior to construction and would comply with all the applicable conditions of approval. The railroads require specific safety training of construction crews before they are permitted to work within the railroad rights-of-way. The applicant-prepared Traffic Management Plan (subject to City review and approval) would govern how project construction would comply with roadside safety protocols, so as to reduce the risk of accident. Specific requirements that may be included in the Traffic Management Plan are identified under **Mitigation Measure TRA-1b**. Implementation of **Mitigation Measures TRA-1a** and **TRA-1b** would ensure temporary increases in the potential for accidents would be mitigated to a less than significant level.

Impact TRA-4: Project construction within or across streets would affect emergency access, and access to local land uses. This would be a less than significant impact with implementation of Mitigation Measure TRA-4.

Mitigation Measure TRA-4: Implement Mitigation Measures TRA-1a and TRA-1b.

As discussed in **Impact TRA-1**, the proposed project could have temporary effects on traffic flow. Project construction within existing streets, and temporary reduction in travel lanes, could result in delays for emergency vehicle access in the vicinity of the project area. In addition, access to driveways and to cross streets along the proposed project route would be temporarily blocked due to trenching and paving, thereby affecting access and parking for adjacent residences, institutions, businesses, and other uses. This could be an inconvenience to some and a potentially significant problem for others, particularly schools, and emergency service providers (e.g., police and fire). However, construction of the proposed project would not cause any emergency routes to be closed, and PG&E would coordinate with emergency service providers in the area prior to project construction to ensure that construction activities and associated lane closures would not significantly affect emergency response vehicles.

Vehicle access would be restored at the end of each work day through the use of steel trench plates or trench backfilling. Based on the estimated work pace of up to 300 feet per day, project construction would occur for about one day in front of an individual property on affected roads. PG&E would notify residents and business owners along the street that would be affected by this project construction in advance. For the day of disruption, residents and business employees typically would park on the other side of the street and walk around the construction area to their homes and workplaces. In areas where a residence or business has two access points, one access would be open to traffic at all times. In cases where the inconvenience is not minor, such as with an active business that is dependent on one driveway, the work could be scheduled during night-time hours. The duration of this short-term inconvenience would be a less-than-significant impact with sufficient advance notification of the timing of construction in front of each affected property.

Because project construction would require the temporary closure of sidewalks, the proposed project would conflict with Policy 23.5 of the Transportation Element of the General Plan, which requires maintaining an unobstructed width that allows for the passing of people, strollers, and wheelchairs. Construction-related restrictions would generally last for two weeks, but in some locations, restrictions may last up to a month. During these times, the walkways would be rerouted. PG&E would apply for a Special Traffic Permit from the City and County of San Francisco.

Bike routes that could be affected by project construction include the route along Indiana Street at its intersection with Cesar Chavez Street, and the portions of Cesar Chavez Street and Evans Avenue that are designated bike routes. The wide curb lane bike route along Minnesota Street also could be affected by project construction, and the bike lanes located along Cesar Chavez Street and Evans Avenue might need to be rerouted. Lane closures may temporarily detour bikeways, but impacts would be short term and temporary.

As specified under **Mitigation Measure TRA-1a**, above, PG&E would obtain all necessary road and railroad encroachment permits prior to project construction and would comply with all the applicable conditions of approval. The applicant-prepared Traffic Management Plan (subject to City review and approval) would govern how traffic flow (auto, pedestrian and bicycle), and emergency vehicle access, is safely maintained during project construction. Specific requirements that may be included in the Traffic Management Plan are identified under **Mitigation Measure TRA-1b**. Implementation of **Mitigation Measures TRA-1a and TRA-1b** would ensure potential impacts associated with temporary effects on emergency and general access would be mitigated to a less than significant level.

Parking Effects

Project construction would create limited new, temporary parking demand for construction workers and construction vehicles as crews move through the project area. Assuming each worker drives alone to each day's work location, each crew would require up to 25 parking spaces. Parking also could be temporarily displaced during trenching activities along the streets that the proposed project route follows. Given the estimated work pace, impacts to on-street parking would be relatively brief at any one location throughout the project area. The project impact would be less than significant, and no mitigation is required.

The proposed project route runs through a large parking lot owned by the San Francisco Chronicle on the south side of Cesar Chavez Street, just west of Mississippi Street. PG&E would acquire the necessary rights to use this area. Construction of the proposed project through this parking lot would displace one row of parking spaces (about 24 spaces) for approximately two weeks. However, according to the Chronicle, adequate parking is available in other portions of the lot, and the impact would be less than significant (Hager, 2004).

Impact TRA-5: Project construction could temporarily disrupt bus service along the proposed project route. This would be a less than significant impact with implementation of Mitigation Measure TRA-5.

Mitigation Measure TRA-5: Implement Mitigation Measures TRA-1a and TRA-1b.

The proposed project would have no lasting impact on demand for alternative transportation or on alternative transportation facilities. However, project construction could disrupt access to bus stops along the proposed project route, and slow bus movements. Bus routes on streets may need to be temporarily detoured, and bus stops temporarily relocated.

Project construction could result in the temporary relocation of three bus stops located along Evans Avenue. Unless there is an alternative stop in proximity, bus stops would need to be relocated outside of the active work area, as determined by Muni under advance notification of the construction schedule.

The new Third Street Light Rail Transit Project that is currently under construction would not be affected by the proposed project because Third Street would be crossed via a horizontal jack-and-bore, as previously described.

As specified under **Mitigation Measure TRA-1a**, above, PG&E would obtain all necessary road and railroad encroachment permits prior to project construction and would comply with all the applicable conditions of approval. The applicant-prepared Traffic Management Plan (subject to City review and approval) would establish methods for minimizing construction effects on transit service. Specific requirements that may be included in the Traffic Management Plan are identified under **Mitigation Measure TRA-1b**. Implementation of **Mitigation Measures TRA-1a** and **TRA-1b** would ensure potential impacts associated with temporary effects on transit service would be mitigated to a less than significant level.

CHECKLIST IMPACT CONCLUSIONS

- a) As described under **Impacts TRA-1** and **TRA-2** above, with implementation of **Mitigation Measures TRA-1a** and **TRA-1b** (Traffic Management Plan, etc.), the project would have a less than significant effect on traffic congestion in the project area.
- b) Level of service standards for roadways that are part of county Congestion Management Program (CMP) networks are intended to regulate long-term traffic increases from operation of new development, and do not apply to temporary construction projects. As such, the proposed project would not exceed level-of-service standards established by the San Francisco Transportation Authority for designated CMP roadways.
- c) The proposed project would only involve below-ground installations. Therefore, there would be no impact to air traffic patterns or increase in safety risks as a result of the proposed project.
- d) As described under **Impact TRA-3** above, with implementation of **Mitigation Measures TRA-1a** and **TRA-1b** (Traffic Management Plan, etc.), the proposed project would have a less than significant effect on traffic safety in the project area. The proposed project would not involve any new permanent design features that could be hazardous or incompatible because, upon completion, the cable would be underground.
- e) As described under **Impact TRA-4** above, with implementation of **Mitigation Measures TRA-1a** and **TRA-1b** (Traffic Management Plan, etc.), the proposed project would have a less than significant effect on emergency and general access in the project area.
- f) Given the estimated work pace, impacts to on-street parking due to temporary additional parking demand (for construction workers and construction vehicles), and displaced parking (on-street and in a parking lot owned by the San Francisco Chronicle) would be

relatively brief at any one location throughout the project area, and the effect would be less than significant.

- g) As described under **Impact TRA-5** above, the proposed project would have no lasting impact on demand for alternative transportation or on alternative transportation facilities. In addition, with implementation of **Mitigation Measures TRA-1a** and **TRA-1b** (Traffic Management Plan, etc.), the proposed project would have a less than significant effect on public transit (relocated bus stop) in the project area.

REFERENCES – Transportation / Traffic

Bromley, John, 2003. Union Pacific Railway Public Affairs Office, personal communication. July 2, 2003

California Department of Transportation (Caltrans), 2003. Annual Average Traffic Volumes on State Highways. <http://www.dot.ca.gov/hq/traffops> accessed June 2004.

Hager, Kevin, 2004. San Francisco Chronicle, personal communication. June 18, 2004.

Larocco, Nick, 2003. Port of San Francisco, email communications. June 30, July 7, and October 28, 2003.

Nokazowa, Kathy, 2004. Port of San Francisco, personal communication. June 18, 2004.

City and County of San Francisco Department of Public Works, Street Construction Coordination Center. Streets under Moratorium. <http://209.77.149.9/sfdpw/sccc/download/morator.pdf> accessed June 2004.

City and County of San Francisco. San Francisco Bike Map and Walking Guide <http://sfgov.org/cap/pages/map.pdf> accessed June 2004.

City and County of San Francisco. *San Francisco General Plan*.

San Francisco Transportation Authority. <http://www.sfcta.org/Publications/DataPage.htm> accessed June 2004.

Wilbur Smith Associates, 2000. *Southern Waterfront Project Transportation Study*.

2.16 UTILITIES AND SERVICE SYSTEMS

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporation</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
UTILITIES AND SERVICE SYSTEMS—				
Would the proposed project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SETTING

Since the proposed project route generally travels through a highly urbanized area in city streets, the likelihood of encountering other buried utility and service systems is high; however the potential that project construction activities would accidentally contact underground utilities during construction is low. State law requires consultation with Underground Service Alert (see Regulatory Setting) and on-site verification and probing to avoid disturbing unidentified utility systems.

The proposed project is located entirely within the jurisdiction of the City and County of San Francisco. Utilities which may be encountered by the proposed project include underground utilities such as buried water, storm drain, sanitary sewer, telephone, cable, network fiber optic, natural gas, electrical traffic loops, and electrical distribution lines. Overhead utilities include telephone, cable, and electrical distribution and transmission lines. Each of the potentially affected services and their providers are shown in **Table 2.16-1**.

**TABLE 2.16-1
LOCAL UTILITY AND SERVICE PROVIDERS**

Utility or Service	Provider
Water and Sewer Service	San Francisco Public Utilities Commission (SFPUC)
Sewer and Storm Drain Maintenance	City of San Francisco Department of Public Works
Water Line Maintenance	SF Department of Water
Wastewater Collection and Treatment at the Southeast Water Pollution Control Plant	SF Bureau of Water Pollution Control SF Bureau of Street and Sewer Repair
Garbage Services	San Francisco Department of Public Works Norcal Waste Systems, Inc. (Sunset Scavenger and Golden Gate Disposal & Recycling)
Landfills	Norcal Waste Systems, Inc.
Telephone	SBC
Cable	AT&T Comcast
Natural Gas and Electric Service	PG&E
Other Communications	MCI Level 3 Communications Sprint Teleport Communications

REGULATORY CONTEXT

Utility operators are required to protect underground structures as detailed in Title 1, Division 5, Chapter 3.1, Article 2, 4216 of California Government Code. This law requires that an excavator must contact a regional notification center at least two days prior to excavation of any subsurface installations. For the proposed project, the Underground Service Alert must be contacted.

Underground Service Alert, in turn, would notify the utility providers that may have buried lines within 1,000 feet of the excavation. Representatives of the utilities are required to mark the specific location of their facilities within the work area prior to the start of excavation. The excavator is required to probe and expose the underground facilities by hand prior to using power equipment.

IMPACTS DISCUSSION OF UTILITY AND SERVICE SYSTEMS

METHODOLOGY AND SIGNIFICANCE CRITERIA

The methodology to determine impacts to utilities consisted of reviewing maps, land use plans, and technical data summarizing utilities in the project area. To determine the level of significance of the impacts anticipated from the proposed project, the proposed project's effects were

evaluated as provided under the CEQA Guidelines. This significance criteria, as set forth in CEQA Guidelines Appendix G, are summarized in the checklist provided at the beginning of this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

It is not expected that the proposed project would result in a significant impact to existing utility and service systems; however, short-term construction impacts are expected. All existing electrical service would remain operational throughout project construction and no interruptions are anticipated. Because project construction at switchyards would occur in locations where PG&E has previously installed equipment, the locations of existing utilities on the sites are known. Therefore, the potential for accidental utility system disruption is very low and would be a less than significant impact. The proposed project meets PG&E's objective to provide necessary upgrades to the electrical transmission system serving the City in order to improve reliability and increase capacity.

CHECKLIST IMPACT CONCLUSIONS

- a) The proposed project would not result in wastewater treatment requirements that would exceed those set by the Regional Water Quality Control Board (San Francisco Bay Region). The project would not result in any expansion of urban development in the area that would lead to additional wastewater generation or the potential to exceed treatment requirements. The proposed project is not expected to result in new sources of point or non-point water pollution during construction and therefore existing standards would not be exceeded. The contractor would provide portable toilets on-site during construction, which would then be removed from the site on a regular basis for servicing off-site. This would be the only wastewater source associated with the proposed project. The amount of wastewater generated by workers during project construction would be minimal and temporary in nature and would not adversely affect the treatment plant that would receive the wastewater. Therefore, because wastewater generated during project construction would result in a negligible and temporary increase, the proposed project would not exceed the wastewater treatment requirements of the applicable RWQCB. Therefore, this would be a less than significant impact.
- b) The proposed project would not result in direct or indirect urban development or require new water or wastewater treatment facilities. During construction, portable restrooms would be used and maintained by PG&E and its construction crew. Upon completion of construction, the proposed project would not generate a significant demand for water or wastewater treatment, as the proposed 115 kV cable line would be an un-manned, automated facility. Therefore, the proposed project is not expected to exceed the existing water supplies or wastewater treatment capacity available to the proposed project and therefore, would not require the construction of new water or wastewater treatment facilities. Therefore, no project impact would occur.

- c) Implementation of the proposed project would not require new or expanded storm water drainage facilities; therefore no potential for significant environmental effects exists. A system of storm drainage facilities currently directs stormwater along the urban streets within the project area. Because the proposed project would not change the amount of stormwater that currently drains from the site and because it would be located in a developed area with adequate existing drainage facilities, no new or expanded stormwater drainage facilities would be required. Upon completion of the project construction, site grading would be restored to existing topography within the city Streets and would not change existing stormwater drainage patterns within the rights-of-way. No impact would occur.
- d) In addition to water for street cleaning, small amounts of water would be used during underground construction activities. Compared to the total daily volume of water delivered to San Francisco, the water required for this proposed project would be a minor amount. The water demand for construction of the proposed project would have less than significant impact on the regional water supply.
- e) The proposed project would result in minimal wastewater generation. As discussed in b), above, existing wastewater facilities are adequate to accommodate the minor demand that would be generated by the proposed project. Therefore, the wastewater treatment providers that serve the area would have adequate capacity, in addition to their existing commitments, to serve the proposed project's projected demand. Portable restrooms would be used and maintained during project construction. Therefore, impacts would be less than significant.
- f) The proposed project would generate some waste material. Asphalt, concrete, trenching spoils, and other excavated material would be reused by PG&E's construction crews on-site to the greatest extent feasible. Approximately 10,000 cubic yards of material would be generated by the proposed project (Essex Environmental, 2003). Material that cannot be reused as thermal backfill would be hauled to local asphalt manufacturers and/or recyclers or transported to appropriate disposal facilities. During project construction, any solid waste generated on-site would be collected and transported by a private contractor. As such, collection and transport of project-related solid waste would have no impact on public utility providers. The quantity of construction-related materials transported to the landfills would be minor relative to the daily volumes handled at those facilities and would not substantially affect their remaining capacities. Project operation would not generate solid waste and therefore would not affect existing landfill capacities. Therefore, solid waste-related impacts would be less than significant.
- g) The California Integrated Waste Management Act of 1989, which emphasizes resource conservation through reduction, recycling, and reuse of solid waste requires that localities conduct a Solid Waste Generation Study (SWGS) and develop a Source Reduction Recycling Element (SRRE). The proposed project would operate in accordance with these applicable Solid Waste Management Policy Plans by including recycling activities as part of the proposed project. PG&E has committed to following all solid waste disposal

regulations as part of the proposed project. As identified in f), above, landfills serving the site would have sufficient capacity to accommodate project construction solid waste disposal needs, and the disposal of project refuse would not require the need for new or expanded landfill facilities. Therefore, the proposed project would comply with federal, state, and local statutes and regulations related to solid waste disposal limits and landfill capacities. Therefore, this impact would be less than significant.

REFERENCES – Utilities And Service Systems

Essex Environmental, 2003. *PG&E Potrero to Hunters Point 115 kV Cable Project Proponent's Environmental Assessment*. December 2003.

2.17 MANDATORY FINDINGS OF SIGNIFICANCE

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have impacts that are individually limited, but cumulative considerable? ("Cumulative considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MANDATORY FINDINGS OF SIGNIFICANCE DISCUSSION

The proposed project consists of the construction of an underground 115 kV cable line from the Potrero Switchyard to the Hunters Point Switchyard in the city of San Francisco.

CHECKLIST IMPACT CONCLUSIONS

- a) As described in Section 2.1, *Aesthetics*, the proposed project would not have the potential to result in potentially significant unavoidable impacts related to the visual quality of the area.

As described in Section 2.3, *Air Quality*, the proposed project would have the potential to result in several potentially significant impacts primarily related to short-term construction related air emissions which have some potential to degrade the quality of the environment. Mitigation measures contained in each of the subject resource area descriptions are considered adequate to reduce these individual impacts to a less than significant level.

As described in the Section 2.4, *Biological Resources*, the project would not have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife species population to drop below self sustaining levels, nor would it restrict the

range of a rare or endangered plant or animal community, or reduce the range of a rare or endangered plant or animal.

Section 2.5, *Cultural Resources*, concludes that the proposed project would have some potential to eliminate important examples of the major periods of California history or pre-history. No direct impacts to known cultural resources would occur during project construction. There are no known areas of cultural significance located within the proposed project area. The closest site is CA-SFr-15, a Nelson shellmound site, located one-quarter mile southwest of the proposed project site. Unknown cultural resources, however, could be exposed during trench excavation activities. An on-site monitor would be present during all excavation activities and a specific protocol has been established to deal with undiscovered resources. As a result, no impact to cultural resources is anticipated with implementation of mitigation measures identified in this MND.

- b) The proposed project impacts include the potential for an accidental release of hazardous materials stored in staging areas and used during the construction of the proposed project that could enter nearby waterways, adjacent lands, or public roadways. There is the potential for exposure to contaminated soil and groundwater from existing and unidentified contamination that might be encountered during excavation and/or dewatering activities. With the mitigation measures provided in Section 2.7, *Hazards and Hazardous Materials*, the proposed project would not have environmental effects that could cause adverse effects on human beings, either directly or indirectly.

Electricity transmission or use can generate EMF's, which are caused by the presence and motion of electric charges. Over the past several years, media reports on potential EMF exposure from power lines have generated much public interest and concern. Mitigation measures, including the incorporation of EMF reduction measures in accordance with CPUC Decision 93-11-013 and Decision 39112-15 for the Jefferson-Martin 230 kV Transmission project are included in Section 2.7, *Hazards and Hazardous Materials*. As a result, the impacts would be less than significant.

Additionally, the proposed project would provide necessary internal transmission network reinforcements to the electrical transmission system serving the City in order to improve reliability, increase capacity, and provide a component needed to meet the goal of closing PG&E's Hunters Point Power Plant.

- c) CEQA Guidelines Section 15130(a) requires a discussion of the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. The CEQA Guidelines note that the cumulative impacts discussion does not need to provide as much detail as is provided in the analysis of project-only impacts and should be guided by the standards of practicality and reasonableness.

In addition, CEQA Guidelines Section 15130(b) states that the following three elements are necessary for an adequate cumulative analysis:

- A list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the Lead Agency (i.e., the list approach); or a summary of projections contained in an adopted General Plan or related planning document designed to evaluate regional or area-wide conditions (i.e., the plan approach). This information is provided in **Tables 2.17-1** and **2-17.2** at the end of this section.
- A summary of expected environmental effects to be produced by those projects. The summary must include specific reference to additional information that states where that information is available. This information is provided in **Tables 2.17-1** and **2-17.2**.
- A reasonable analysis of the cumulative impacts of the relevant projects and an examination of reasonable options for mitigating or avoiding any significant cumulative effects of a proposed project.

The cumulative projects considered in this analysis are provided in **Tables 2.17-1** and **2.17-2**. These projects fall into two categories: construction projects in the vicinity of the proposed project (approximately 1/2 mile) are identified in **Table 2.17-1**; and generation and transmission projects located within the Greater Bay Area, identified in **Table 2.17-2**. The construction projects range from residential and commercial developments, light rail and inter-modal facilities, to other utility projects. These projects are examined in light of their potential to contribute to short-term, construction-related effects in conjunction with the proposed project. Planned and proposed generation and transmission projects were identified using information from SFPUC, CAISO, and PG&E. These projects are not confined to the immediate vicinity of the proposed project and mainly consist of improvements to the electrical transmission network serving San Francisco. While some of these transmission projects may contribute to short-term construction-related effects, they are also examined for their possible contribution to long-term operational effects.

LOCAL CONSTRUCTION PROJECTS

PG&E states that it anticipates construction of the proposed project to begin on or before April 1, 2005 and extend through a nine-month period (Essex Environmental, 2003). PG&E evaluated projects within a half mile area on either side of the proposed project route. These projects have been brought forth through applications or pre-application meetings. Additional analysis was conducted by ESA to evaluate all applicable projects within the vicinity of the proposed project route. It is reasonable to assume that construction of a number of these projects may coincide with the proposed project. **Table 2.17-2**, which list development, utility improvement, and capital investment projects, was developed by contacting the following entities for information on projects within their jurisdictional purview:

- City and Count of San Francisco, Department of Public Works
- City and County of San Francisco, Planning Department
- San Francisco Municipal Railway
- San Francisco Public Utilities Commission
- Port of San Francisco

GENERATION AND TRANSMISSION CUMULATIVE PROJECTS

As shown on **Table 2.17-2**, other power generation and transmission projects are planned for the Greater Bay Area as part of a long-term initiative to meet growing power needs and increase reliability (SFPUC, 2002).

Currently, both of the in-City power plants are located in the southeast sector. To address this environmental justice issue, in July 1998, the City and County of San Francisco entered into an agreement with PG&E to “permanently shut down the Hunters Point Power Plant as soon as the facility is no longer needed to sustain electric reliability in San Francisco and the surrounding area and the Federal Energy Regulatory Commission (FERC) has authorized PG&E to terminate PG&E’s Reliability Must Run (RMR) Contract for the facility” (CPUC, 2004).

In September 2004, CAISO created an action plan that meets reliability standard and allows for the release of the Hunters Point Power Plant from its RMR agreements. In order to release Hunters Point existing generation Units #1 and #4 from their RMR Agreements, seven projects are required, including: San Mateo-Martin # 4 Line 60-115 kV Voltage Conversion; Ravenswood #2 230/115 kV transformer project; San Francisco Internal Cable Higher Emergency Ratings; Tesla-Newark #2 230 kV Line Reconductoring; Ravenswood-Ames #1 and #2 115 kV Lines Reinforcement; San Mateo 230 kV Bus Insulator Replacement; *Potrero to Hunters Point 115 kV Cable*; Potrero #3 retrofit with emission control technology; and the Jefferson-Martin 230 kV Line. To release Hunters Point Units #2 and #3, which operate as synchronous condensers to produce voltage support and are not in electric energy production mode, from the RMR Agreements, a Static Var Compensator (SVC) located at Potrero Substation would be required to both replace these synchronous condensers as well as support reactive capacity lost when Hunters Point Unit #4 is eventually retired. **Table 2.17-2** provides the status of the above-mentioned projects identified by CAISO as necessary for the closure of Hunters Point Power Plant.

There are two planned transmission projects that can help alleviate San Francisco’s meet growth demand and capacity shortage issues. A planned upgrade to the San Mateo-Martin #4 60 kV to 115kV line, which currently serves San Francisco and was energized in July 2004, is expected to bring as much as 100 megawatts (MW) of new capacity. Additionally, the proposed Jefferson-Martin transmission line is planned for completion in the fall of 2005 and would add up to 350 MW of new capacity. However, approvals for right-of-way through several Peninsula communities may cause significant delays. While the implementation of both of these transmission projects would facilitate the closure of

Hunters Point, any problems in the development of the Jefferson –Martin project would delay the closure (SFPUC, 2002).

CONSTRUCTION-RELATED EFFECTS (SHORT-TERM)

In conjunction with the proposed project, several short-term construction-related cumulative impacts may occur. These potential impacts include impacts to cultural resources, hazardous materials, noise, and traffic. Each is described in detail below.

- Implementation of the proposed project, as described in Section 2.5, *Cultural Resources*, would have the potential to result in the disturbance of undiscovered cultural resources. In conjunction with the other local construction projects in **Table 2.17-1** and the underground transmission projects identified in **Table 2.17-2** (such as the Jefferson-Martin and Martin-Hunters Point transmission lines), it is possible that the proposed project could contribute to a significant cumulative impact. It is unlikely, however, that the trenching associated with the proposed project would uncover a major cultural find, especially in previously disturbed areas. Nonetheless, a full-time on-site monitor would be present during construction, to address unanticipated discoveries, pursuant to CEQA Guidelines Section 15064.5(e) and (f). It is probable that all other cumulative projects (particularly underground transmission projects) would have similar requirements. Additionally, resources are protected by the State Historic Preservation Officer in accordance with the National Historic Preservation Act. Due to these factors, cumulative impacts associated with the project are determined to be less than significant.
- As described in Section 2.7, *Hazards and Hazardous Materials*, a number of potential hazardous sites have been identified along the proposed project route through research of existing regulatory lists of these sites. Other construction projects in the area also have the potential to be effected by hazardous sites in the area. The proposed project, in conjunction with the cumulative project scenario, could result in significant cumulative impacts if adequate mitigation is not required for each project. Excavated and stored material could contain hazardous waste that could present risks to construction workers, the public, or the environment if not handled according to specific protocols. The mitigation measures are outlined in Section 2.7, *Hazards and Hazardous Materials*, in addition to the codified requirements of state and federal law. With the implementation of the mitigations and safety protocols for this project, as well as others in the cumulative scenario, impacts are determined to be less than significant.
- Equipment used during construction of the proposed project would temporarily increase short-term noise levels in the project area. The proposed project, in conjunction with the other projects listed on **Table 2.17-1** would have the potential to contribute to a cumulative impact of noise levels in the project area. Mitigation measures specified in Section 2.11, *Noise*, would reduce the significant noise effects associated with the proposed project to a level of less than significant. Since it is unlikely that all activities would occur in the same area at one time, noise increases would be dispersed and a significant cumulative noise impact would not occur.

- Traffic flow in the project area would be disrupted by the proposed project during construction. Street, lane, and sidewalk closures may be required. In conjunction with other construction on projects in the area, potential cumulative impacts could occur. As specified in Section 2.15, *Traffic and Transportation*, PG&E has committed to the preparation of a Traffic Management Plan prior to construction. This plan is subject to the approval of the City of San Francisco. Other cumulative projects would be required to adhere to the requirements set forth in the City of San Francisco Excavation and Special Traffic Permits, leading to a determination that significant cumulative impacts would not occur.

OPERATIONAL EFFECTS (LONG-TERM)

In conjunction with the proposed project, long-term operation-related cumulative impacts may occur. The potential cumulative impacts are described in detail below.

- As described in Section 2.7, *Hazards and Hazardous Materials*, operation of the new 115 kV cable line would expose people to EMF, which has been a source of public concern. In conjunction with the other generation and transmission projects identified in **Table 2.17-2**, it is possible that the project could contribute to a potentially significant cumulative impact. In accordance with CPUC Decision 93-11-013, the proposed project shall incorporate EMF reduction measures described in **Mitigation Measure HAZ-2**. Other generation and transmission projects will be required to comply with CPUC Decision 93-11-013. With the implementation of the proposed mitigation and compliance with CPUC Decision 93-11-013, the cumulative impacts are determined to be less than significant.
- Operational noise (long-term increases in the ambient noise level) associated with the proposed project is determined to be less than significant. Likewise, other transmission projects and switchyard improvements identified in **Table 2.17-2** are unlikely to increase the ambient noise level in the vicinity of this project. The cumulative impact of long-term noise levels is therefore determined to be less than significant.
- Impacts related to geology (Section 2.6) would be site-specific and would be reduced to a less than significant level with the implementation of proposed mitigation. Other projects considered in the cumulative scenario, by employing standard engineering practices and California Building Code (CBC) standards, would not likely increase the risk associated with geologic hazards. The cumulative impact would be less than significant.
- The placement of the transmission line and backfill material could impede the flow of groundwater, as described in Section 2.8, *Hydrology and Water Quality*. Implementation of the proposed mitigation would reduce this impact to less than significant. Other transmission projects, if located below the water table, would likely have similar requirements. These factors lead to a determination that cumulative impacts associated with the project are less than significant.

**TABLE 2.17-1
PLANNED AND PROPOSED LOCAL CONSTRUCTION PROJECTS WITHIN 1/2 MILE OF THE PROJECT AREA**

Project	Address/Location	Description	Size (Acres)	Status ¹	Anticipated Construction Schedule	
					Begin	End
<i>City and County of San Francisco, Public Works Department</i>						
Street Construction Coordination Center 5 Year Plan Projects	Various Locations	Paving, sewer, and various street improvements projects by the San Francisco Water Department, Underground Planning Department, Department of Parking and Traffic, and SBC repairs.	N/A ²	A	September 2004	July 2005
<i>San Francisco Municipal Railroad</i>						
Third Street Light Rail Project	Third Street from Visitacion Valley to Chinatown	Two-Phase project to construct 7.1 miles of new light rail, 20 surface stations, and 4 subway stations.	N/A	U	2001	Phase I: Spring 2005 Phase 2: INA
Metro East Light Rail Maintenance and Operations Facility	Parcel bounded by 25 th , Illinois Cesar Chavez, and Maryland Streets	Construction of facility for storage, maintenance, and operation of light rail vehicles. Will consist of construction of an initial 13-acre site that will be expanded.	17	A	Spring 2004	2007
Islais Creek Busyard (“Lighter Than Air” facility)	Indiana Street and I-280	Construction of a maintenance and storage yard for buses	INA	P	2006	INA

TABLE 2.17-1 (continued)
PLANNED AND PROPOSED LOCAL CONSTRUCTION PROJECTS WITHIN 1/2 MILE OF THE PROJECT AREA

Project	Address/Location	Description	Size (Acres)	Status ¹	Anticipated Construction Schedule	
					Begin	End
<i>Port of San Francisco</i>						
Illinois Street Intermodal Bridge	Illinois Street across Islais Creek Channel (between Marin Street and Amador Street)	Construction of an intermodal bridge that will connect the Port’s northern container terminal (Pier 80) on the northern bank of Islais Creek with the southern container terminals (Pier 90 through 92, Pier 94 through 96, and Backlands). Reconfiguration of railroads tracks on Cargo Way to accommodate increase rail traffic in conjunction with the intermodal bridge.	N/A	A	Sept. 2004	Dec. 2005
Pacific Cement	Amador Street near Pier 94	Construction of a fully enclosed concrete batch plant.	4.5	U	June 2004	June 2005
RMC Pacific Materials	Pier 90	Construction of a ready-mix concrete plant, maintenance shop, parking, and truck wash stations. This facility will replace the one located at Third and Mariposa Streets.	4.5	U	Sept. 2004	Sept. 2005
San Francisco Petroleum	Pier 80 or 90	Construction of marine fueling facility with possibility for City truck and vehicle fueling.	0.5	PL	INA	INA
Pier 70 Development	Maritime Reserve East of Illinois Street between 18 th and 21 st Streets	Development of new maritime, maritime support, and general industry uses totaling 400,000 square feet within the 55-acre reserve. Development of a 16-acre site for commercial office and/or research and development space, retail space, and public access and recreational maritime uses totaling 950,000 square feet.	9.2	PL	INA	INA

Project	Address/Location	Description	Size (Acres)	Status ¹	Anticipated Construction Schedule	
					Begin	End
<i>Port of San Francisco</i>						
Pier 90–94 Backlands Development	Northeast of Cargo Way	Development of 800,000 to 1,000,000 square feet of light industrial/warehouse uses within the backlands. An RFP to developers is expected in 2005.	47	PL	INA	INA
Specialty Crushing	Pier 94 at Cargo Way	Concrete recycling. Lease renewed for five years. May add concrete batch plant onsite.	10	PL	INA	INA
<i>City and County of San Francisco, Planning Department</i>						
Residential development	Various locations	Miscellaneous one- to four-story buildings with one or two residential dwelling units.	INA	INA	INA	INA
Residential Building	25 Sierra Street	Four-story, 67-unit residential building with office and retail space.	INA	INA	INA	INA
Retail Building (Home Depot)	491 Bayshore Boulevard	Demolish two existing retail buildings and erect new two-story building and three story parking structure for retail and material sales.	5.7	P	INA	INA
Retail/Office Building	1000 17 th Street	Four-story retail/office building	INA	INA	INA	INA
Mixed-Use Development	3 rd Street/Cargo Way	Mixed Use Residential/commercial redevelopment project	INA	PL	INA	INA

¹ Status encompasses the following categories:

- U = The project is under construction.
- A = The local authority or lead agency has formally approved the project.
- P = The project is pending in the formal application review process.
- PL = The project is planned; proponents have not initiated the formal approval process.
- INA = Information is not available.

² Not applicable (N/A)

**TABLE 2.17-2
PLANNED AND PROPOSED GENERATION AND TRANSMISSION PROJECTS IN THE SAN FRANCISCO BAY AREA**

Project	Address/Location	Description	Completion Date
Jefferson-Martin 230-kV Line Project	San Mateo County	A new 27-mile 230-kV transmission line between Jefferson and Martin 230-kV substations. The cable would be partly or wholly underground.	December 2005 to March 2006
Jefferson 230/60-kV Transformer	Jefferson Substation	Installation of a second 230/60-kV transformer at Jefferson Substation.	December 2005
Martin-Hunters Point 115-kV Underground Cable	Hunters Point	Construct a new 115-kV underground cable between Martin and Hunters Point with an ampacity rating of 1,000 amps; this cable is required to distribute power imported into the Martin substation in place of power generated at the Hunters Point Power Plant.	Summer 2007
Potrero Static VAR Compensator	Potrero Switchyard	Installation of +240/-100 Static Var Compensator at the Potrero Switchyard	Under Construction
Tesla-Newark #2 230-kV Line 2nd Reconditioning	8 miles out from the Tesla Substation	Complete bundling of the Tesla-Newark #2 230-kV line with 954 ACSS conductor for approximately 8 miles out from the Tesla substation	Under Construction, May 2005
Ravenswood 230/115-kV Transformer	East Palo Alto	Installation of a second 230/115-kV transformer at Ravenswood	Completed April 2003
Ravenswood-Ames #1 and #2 115-kV Lines Reinforcement	East Palo Alto	Increase the rating of the Ravenswood Ames #1 and #2 115-kV lines by reconductoring them with 477 ACSS conductor	Planning Phase, May 2005
San Mateo-Martin #4 Line 60-115-kV Voltage Conversion	San Mateo County	Reconductor and convert the San Mateo-Martin 60 kV circuit to 115-kV operation. Substation modifications also needed at Burlingame and Millbrae.	Completed
City of Santa Clara – PG&E 230-kV Interconnection	Santa Clara County	Interconnection of Silicon Valley Power's proposed 230-kV line from its Northern Receiving station to Los Esteros substation	Under evaluation
Potrero 3 SCR retrofit	Potrero Power Plant	Retrofit Potrero #3 with emission control technology	February 2005

TABLE 2.17-2 (continued)
PLANNED AND PROPOSED GENERATION AND TRANSMISSION PROJECTS IN THE SAN FRANCISCO BAY AREA

Project	Address/Location	Description	Completion Date
San Francisco Internal Cable Higher Emergency Ratings	San Francisco	Upgrade of cable rating in San Francisco	Completed
San Mateo 230 kV Bus Insulator Replacement	San Mateo County	Eliminate bus wash at San Mateo 230 kV. Bus will reduce the 400 MV generator operational requirement to less than 200 MW.	May 2005
San Francisco Electric Reliability Project and San Francisco Airport Electric Reliability Plant	San Francisco and San Mateo Counties	The transmission lines running up the peninsula to San Francisco cannot carry enough electricity to serve the city's peak load. To remedy the situation, the City has acquired four low-emission combustion turbines. These will maintain reliable electrical service by providing power close to where it is needed, as well as ensuring the closure of the city's oldest power plant at Hunters Point.	December 2006
Upgrade the Newark-Dumbarton 115 kV Line	San Mateo and Alameda Counties	Upgrade of transmission line connecting the Newark and Dumbarton Substations	May 2006
Upgrade the Bair-Belmont 115 kV Line	San Mateo County	Upgrade of transmission line connecting the Blair and Belmont Substations	Under evaluation, scheduled for 2007
Upgrade the Metcalf-Hicks and Metcalf-Vasona 230 kV Lines	San Mateo and Santa Clara Counties	Upgrade of transmission line connecting the Metcalf -Hicks - Vasona-Substations	Under evaluation, scheduled for 2007
Add Voltage Support at Ravenswood Substation	Palo Alto	Upgrade to add additional voltage to Ravenswood Substation	Under evaluation, scheduled for 2007

REFERENCES – Mandatory Findings of Significance

- CAISO, 2004. *San Francisco Long-Term Transmission Planning Study Phase 2 Study Plan*. April 2004.
- Essex Environmental, 2003. *PG&E Potrero to Hunters Point 115 kV Cable Project Proponent's Environmental Assessment*. December 2003.
- San Francisco Public Utilities Commission, 2002. *The Electricity Resource Plan*. December 2002.
- San Francisco Planning Department, 2004. Information regarding proposed projects and reports. July 2004.
- Beaupre, David, 2004. Personal communication, David Beaupre, Planner, Port of San Francisco. September 2004.

CHAPTER 3

REPORT PREPARERS; PUBLIC AGENCY OUTREACH MEETINGS; AND ORGANIZATIONS AND PERSONS CONSULTED

3.1 REPORT PREPARERS

3.1.1 LEAD AGENCY

California Public Utilities Commission

Mr. John Boccio, Project Manager

3.1.2 CONSULTANTS

Environmental Science Associates

Dail Miller	Project Manager, Project Description, Executive Summary
Cynthia Wren	Deputy Project Manager, Project Description, Air Quality, Aesthetics
John Forsythe	QA/QC Director, Project Description, Utilities and Service Systems
Karl Heisler	Land Use, Plans, and Policies
Jack Hutchison	Transportation/Traffic
Jennifer Johnson	Technical Review, Biological Resources
Dean Martorana	Cultural Resources
Paul Miller	Project Director, Noise
Emily Silverman	Geology and Soils, Hydrology and Water Quality, Mineral Resources
Heidi Vonblum	Technical Review, Hazards and Hazardous Materials, Recreation, Public Services, Population and Housing, Agricultural Resources, Mandatory Findings of Significance
Crystal Spurr	Hazards and Hazardous Materials
Peter Hudson	Hazards and Hazardous Materials
Brian Grattidge	Mandatory Findings of Significance

ATI Architects and Engineers – Hazards and Hazardous Materials, Geology and Soils

Thomas Ewert Civil and Structural Engineering, Division Manager

Cassidy, Shimko & Dawson – Legal Review

Anna Shimko, Esq. Partner

Public Affairs Management – Public and Agency Outreach

Julie Ortiz Project Manager

Charles Gardiner Principal

Al Williams Consulting – Public and Agency Outreach

Al Williams President

3.2 PUBLIC AGENCY OUTREACH MEETINGS AND NOTICES

On July 7, 2004, the CPUC mailed a letter that provided an overview of the proposed project. The letter also provided notice to various agencies, organizations, and individuals (see **Table 3-1**) of a July 22, 2004, informational meeting to be held at the Southeast Community Facility located at 1800 Oakdale Avenue in San Francisco. On August 3, 2004, the CPUC mailed a second letter to the same mailing list announcing that the Draft Initial Study was available for public review and summarizing key findings of the study. As provided in the Executive Summary, the CPUC established an information and comment telephone line of (415) 962-8467, e-mail address (potreroHPcable@esassoc.com), and web site (www.potreroHPcable.com) to enable the public to ask questions, provide comments, obtain additional information on the proposed project and project alternatives discussed in the Draft Initial Study.

3.3 ORGANIZATIONS AND PERSONS CONSULTED

Table 3-1 provides a summary of the agency representatives and individuals that were consulted during the environmental review process. The CPUC notified all the organizations and individuals listed in **Table 3-1** via U.S. Postal Service (USPS). For groups or organizations that expressed a special interest in the proposed project, informal briefings were held to identify issues, interests, and other general concerns. Additionally, a copy of the Initial Study was submitted to people that attended the public meeting, participated in stakeholder interviews, or requested a copy. Additional methods of contact other than delivery of public notices via the USPS are specified in **Table 3-1**, noting type of contact correspondence with the appropriate agency or individual.

TABLE 3-1
ORGANIZATIONS OR PERSONS CONSULTED

Organization	Additional Methods of Contact
Agencies	
Federal	
• U.S. Army Corps of Engineers	
• U.S. Environmental Protection Agency	
• U.S. Geologic Survey	
State	
• California Energy Commission	
• California Environmental Protection Agency	
• California Public Utilities Commission	
• California Seismic Safety Commission	
• California Resources Agency	
• Department of Transportation (Caltrans)	
• Department of Water Resources	
• Office of Emergency Services	
• Office of Planning and Research	
• State Lands Commission	
• State Water Resources Control Board	
• Department of Public Health	

TABLE 3-1 (continued)
ORGANIZATIONS OR PERSONS CONSULTED

Organization	Additional Methods of Contact
Regional	
<ul style="list-style-type: none"> • Association of Bay Area Governments • Bay Area Air Quality Management District • Bay Conservation and Development Commission • Regional Water Quality Control Board, San Francisco Bay Region 	Mailed copy of Initial Study and Mitigated Negative Declaration
Local	
<ul style="list-style-type: none"> • City and County of San Francisco staff • San Francisco Public Utilities Commission • City and County of San Francisco Department of the Environment • City and County of San Francisco Clerk • City and County of San Francisco Community Development • City and County of San Francisco Planning • City and County of San Francisco Public Works • San Francisco's Local Homeless Coordinating Board • Mayor's Office on Homelessness • City & County of S.F. Department of Human Services • San Francisco Recreation & Park Department • San Francisco Municipal Railway • Port of San Francisco 	<p>Several in-person meetings and other communication</p> <p>Phone, e-mail consultation to coordinate meeting dates</p> <p>E-mail consultation of meeting date</p>
Elected Officials	
Federal	
<ul style="list-style-type: none"> • U.S. Representatives (and appropriate staff) • U.S. Senators (and appropriate staff) 	
State	
<ul style="list-style-type: none"> • State Senators (and appropriate staff) • State Assemblypersons (and appropriate staff) 	
Local	
<ul style="list-style-type: none"> • District 10 Supervisor and Aide • Mayor's Office of Neighborhood Services, Liaison for District 10 	

TABLE 3-1 (continued)
ORGANIZATIONS OR PERSONS CONSULTED

Organization	Additional Methods of Contact
<i>Special Interest Groups</i>	
<ul style="list-style-type: none"> • Community First Coalition • Potrero Boosters • Environmental Justice Advocacy • Friends of Islais Creek • Potrero Power Plant Task Force • Bayview Hunters Point PAC • Dogpatch Neighborhood Association • Communities for a Better Environment • Californians for Renewable Energy • Restoration Advisory Board • Green Action • Alliance for a Clean Waterfront • Bayview Hunters Point Community Advocates • Bayview Hunters Point Health and Environmental Assessment Task Force • League of Women Voters • People Organizing to Demand Equal Rights (PODER) • Restoration Advisory Board • San Francisco Planning and Urban Research Association • Sierra Club (local chapter) • Southeast Sector Community Development Corporation • Trust for Public Land • Vehicularly Housed Residential Association • Young Community Developers, Inc. • Youth and Seniors Outreach Services • ROSES • Literacy for Environmental Justice • District 7 Democratic Club • Close-It Coalition/PG&E • Chinese Progressive Action • BVHP Multipurpose Senior Services • Bayview Opera House • Bayview Hunters Point Healthy Start Collaborative • Bayview Hunters Point Coordinating Council • Arc Ecology • Uprising Community Plus • NOAA Community Based Restoration Program • Catellus Urban Development, LLC • Community Window on the Hunter's Point Shipyard 	<p>In-person interview July 15; Mailed copy of Initial Study and Mitigated Negative Declaration</p> <p>In-person interview July 15; Mailed copy of Initial Study and Mitigated Negative Declaration</p> <p>Phone consultation; Mailed copy of Initial Study</p> <p>Phone consultation July 16; Mailed copy of Initial Study</p> <p>In-person briefing; members mailed copies of Initial Study and Mitigated Negative Declaration</p> <p>In-person briefing; two members mailed copies of Initial Study and Mitigated Negative Declaration</p> <p>Phone consultation; Mailed copy of Initial Study and Mitigated Negative Declaration</p> <p>Phone consultation July 16; Mailed copy of Initial Study and Negative Declaration</p> <p>Mailed copy of Initial Study and Negative Declaration</p> <p>Mailed copy of Initial Study and Negative Declaration</p>

TABLE 3-1 (continued)
ORGANIZATIONS OR PERSONS CONSULTED

Organization	Additional Methods of Contact
<i>Neighborhood Groups</i>	
<ul style="list-style-type: none"> • Bayview Hill Neighborhood Association • Potrero Hill Neighborhood Association • Northridge Coop Homes • LaSalle Heights Homeowners Association • India Basin Neighborhood Association • Bay Park Owners Association • Alicia Griffith Tenants Association 	
<i>Local Institutions</i>	
Churches/Libraries	
<ul style="list-style-type: none"> • Anna E. Walden Public Library - Bayview Branch • Potrero Hill Library • Bayview Baptist Church • Bayview Tabernacle Baptist Church • Bell Chapel Christian Methodist Church • Christian Light Baptist Church • Evergreen Baptist Church • Providence Baptist Church 	<p>Provided copy of Initial Study and Negative Declaration</p> <p>Provided copy of Initial Study and Negative Declaration</p>
Schools	
<ul style="list-style-type: none"> • Bret Harte Elementary School • Dr. Charles R. Drew Elementary School • Dr. George Washington Carver Elementary School • Gloria R. Davis Middle School • Kipp Bayview Charter School • Malcolm X Elementary School • Thurgood Marshall High School • Twenty-First Century Middle School • Golden Gate Univ. School of Law, Environ. Law & Justice Clinic 	

TABLE 3-1 (continued)
ORGANIZATIONS OR PERSONS CONSULTED

Organization	Additional Methods of Contact
<i>Consumer/Business Groups</i>	
<ul style="list-style-type: none"> • Black Chamber of Commerce • Bayview Merchants Association • San Francisco Chamber of Commerce • San Francisco Council of District Merchants Association • Building & Construction Trades Council • Hunters Point Shipyard Business • The Utility Reform Network (TURN) • Foundation for Taxpayers and Consumer Rights • S.F. Hispanic Chamber of Commerce • Bayview Business Resource Center • Mission Bay Marketing Center 	In-person meeting July 12
<i>Property Owners & Occupants</i>	
1,255 properties owners and occupants within 300 feet of proposed projects and alternatives	
<i>Local Media</i>	
<ul style="list-style-type: none"> • San Francisco Examiner • San Francisco Independent • Bay City News Service • San Francisco Chronicle • Sing Tao Daily • Neighborhood weekly newspapers (San Francisco Bayview, Potrero View) 	